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The JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION

PLAN TO ATTEND THE ANNUAL SESSION
OF THE
OKLAHOMA STATE MEDICAL ASSOCIATION
May 16-17-18, Mayo Hotel, Tulsa, Oklahoma

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THE JOURNAL
of the
OKLAHOMA STATE MEDICAL ASSOCIATION

EDITORIALS

EVEN THE BUREAUCRATS HAVE A WAY

How did Mr. Ewing and Mr. Truman know just when the American Magazine would come from the press. Getting that Ewing hodge-podge under the wire just at the time Mr. Truman appeared before Congress to ask for everything, including socialized medicine, was good timing.

In spite of the administration's extravagance the Federal Security Bureaucrat has been penurious. Even though he was spending taxpayers' money he should not have worn himself down on that seven month's research in the realm of the nation's medical needs. Even the man in the street knows he could not learn all he has reported in the January American in seven months on an eight hour, five day a week schedule. Even though his finger is not on the pulse of bureaucracy, every man knows that a bureaucrat should not run the risk of working overtime. It's hard to understand. These red-tape-worms are usually ravenous for rest unless ambitious for power.

Please, Mr. Ewing, won't you tell the medical profession how you learned so much in seven month. Apparently you know more than the combined membership of the medical profession has learned in the past hundred years.

But, after giving credit for your erudition, one question troubles us. While we do not want to embarrass you, may we venture to inquire, how you succeeded in securing space in the American for such un-American stuff? Since we are trying to be good Americans we would like to know.

TEN YEARS' WARNING

For at least 10 years the Journal has harped on the fact that socialized medicine has consistently cost much more than anticipated by the countries embracing the system. The nation enthusiastically clamoring for socialized medicine is in just as much danger as the child reaching for the coiled rattle snake because it looked like his father's belt. Both carry venom.

The January 15, 1949, New Yorker under "London Letter" carries four long paragraphs on the National Health Service. In this discussion the pro's and con's are given unprejudiced consideration. To the writer of this editorial the facts presented and their implications are very discouraging. In support of the above references to cost we quote the following lines:

"The National Health Service has just celebrated its six-month birthday. The principal thing that has startled its patients, the British taxpayers, is its costliness, which has turned out to be far greater than the original budget anticipated. The expense of the first nine months of the scheme will come to at least forty-five million pounds more than was estimated, a figure that has been helped along by the eagerness of the public to have their eyes and teeth fixed "on the State."

The statement that "The English should soon be literally a far seeing people" might well have included the fact that they are being bitten by the dentists who seem determined to "cash in on the boon."

The following from the closing is an interesting comment upon the course adopted by our English cousins. Read this and suggest to our lawmakers that we wait and see how the scheme works out on English soil.

"As a going concern, the National Health Service cannot be judged, naturally, for years. Its merits as a hefty dose of pure Socialism are highly arguable. Some people consider that the Minister of Health, who is also responsible for housing, has put the cart before the horse and that the cart is being kicked to pieces. The magnificent new machine of universal medical care can only, after all, do its best to patch up the effects of the appaling over-crowding and medieval discomfort in which thousands of displaced Londoners are still existing."

THE ENGLISH HOUSEWIFE KNOWS

Again we report our English housewife's manifest distrust and disgust with the Na-

tional Health Act. On January 2, 1949, she wrote:

"You ask for more news about the National Insurance. Well, the principle is that all workers pay a fixed contribution which is deducted from their wage each week by their employers. This then covers them and their dependents for all doctor's and hospital fees, optical and dental treatment and in addition, there are special maternity and death benefits. If you visit a doctor and he gives you a prescription, you take it to the chemist who dispenses it free and then he receives its value from the government. Like everything else the usual twisting has developed and people have been getting prescriptions for such ordinary things as cough medicine and discovered a chemist who will exchange the prescription for lipstick, face powder or come other such thing the customer wanted but didn't want to pay for. Then people have been getting spectacles and pawning them. Everyone has gone mad to benefit by the scheme, so much that it won't pay. With the result that they will enforce an increase in the weekly contribution (which I think is large enough already). I don't like the scheme because everyone, like dentists and doctors are so offhand, knowing they will get their fee from the State whether they are polite or otherwise."

If the English people who stood like the Rock of Gibralter against invasion and destruction during the war can tolerate the corruption accompanying socialized medicine, how can we hope to be pure and strong when Ewing writes the prescription. Let's protect our honor. A loud remonstrance is in order.

UNCONTROLED POWER

Too much governmental power channeling from the combined socialistic doctrines of Bismarck and Karl Marx through Lenin, Hitler and Stalin brought totalitarian ruin to European countries. The same political philosophy flowing through socialistic channels now animates the New Deal and threatens all the people with socialized medicine which has ever been the "big stick" dealing the last blow to individual liberty.

Paradoxically, the author of the New Deal, Franklin Delano Roosevelt, said, "The cornerstone of our whole democratic edifice was the principle that from the people and the people alone flows the authority of government," and that you cannot give more power to the government without more "abridgement of freedom."

Everyone who loves his country and treasures the honor and integrity of its citizenry and the personal privilege of life, liberty and the pursuit of happiness, should remember that the bureaucrats already drunk with power are entrenched behind the breast-works the taxpayers have provided. They have occupied the citadel of democracy and are attempting to undermine the cornerstone with the additional power they seek through the false philosophy of better medical care for all the people.

It is easy to see that the liberty our foundling fathers sought to establish and preserve is at stake and desperately in need of the people's support. The lawmakers in Washington live by the vote and they will listen to the voters who alone possess the authority of government.

To make this power effective it must be transmitted to the seat of government. The names of those through whom this power should find expression are listed below. Write them before it is too late.

United States Senators: Elmer Thomas, Medicine Park, Okla. and Robert S. Kerr, Oklahoma City, Okla. (Both Dem.)

Congressmen:

Dist. No. 1—Dixie Gilmer, Dem., Tulsa.

Dist. No. 2—W. G. Stigler, Dem., Stigler.

Dist. No. 3—Carl Albert, Dem., McAlester.

Dist. No. 4—Tom Steed, Dem., Shawnee.

Dist. No. 5—Mike Monroney, Dem., Oklahoma City.

Dist. No. 6—Toby Morris, Dem., Lawton.

Dist. No. 7—Victor Wickersham, Dem., Mangum.

Dist. No. 8—Geo. Howard Wilson, Dem., Enid.

MULE-ELEPHANT-MINK

With a good part of the taxpayers', taxable money and his own untaxable allowance, Mr. Truman should be able to get things done. Perhaps he can save enough out of his salary and expense allowance to make up the uncalculated cost of his socialized medicine program. We hope he can stand a pinch. The cost of compulsory health insurance will be worse than any drouth he and his Missouri mule ever weathered. But not having the mule is quite a saving. (Sometimes the family's rise in the social scale makes it necessary to bring home the mink.)

The head of the house may be surprised to find that a mule skin won't do, even though he happens to be a Democrat. It's a safe bet that an elephant hide will not fill the bill, it's too pachyderm.

UNWARRANTED RADIO MEDICINE ONE EXAMPLE

One commentator speaking on the March of Dimes reminds his audience of all their childhood diseases over which they had no control, calls attention to the fact that through the March of Dimes they can protect their own children from danger, and they can be assured of control in case polio strikes. How wonderful to have such confident reassurance. If only they will dance and "dime" while they dine no harm can come. If we had time to listen we might be saved. March on, oh health minded radio commentators! When we get the dishes washed we will follow. If you can't get the job done we know Duz can. Why don't you take a rest while Doz does it. This would give us a sense of security while trying to catch up.

INCOMPREHENSIBLE

In certain fields of medical endeavor, some of the Federal Government agencies have had seventy-five years to prove the government's capacity to take care of the sick.

The outstanding examples of failure in the care of the sick can be found by looking carefully into the medical service provided for those groups dependent upon the government agencies for care.

Considering this embarassing situation, it is amazing that the Administration has the nerve to ask all the good people to accept a service already proved to be notoriously poor for a period covering three quarters of a century.

ACCIDENTS

It is said that accidents are costing more than the Marshall plan. The cost in lives is mounting annually. The administration, so interested in health and the protection of life, might get interested in this problem which is much more in line with government functions that the control of medical care in connection with an alleged calamitous shortcoming on the part of the medical profession. Mr. Ewing has made a seven months study of the country's medical needs (what a long time for such a study). Apparently he has found the answer physicians with many years of study and experience are still seeking. His physiognomy, past performances and his published reports gove no evidence of such a capacity in the field of research. He might do better with accidents. They break right in the open and the cause is usually obvious. At least he would have something more tangible upon which to spend his obsessive energy and might provide a shorter cut to the goal of his political ambitions.

DESTRUCTIVE DEMOCRACY SEEKS THE DEATH OF MEDICINE

The continued ruthless damning of the channels of free enterprise by the present administration justifies the designation, destructive Democracy, which unobstructed will deal a death blow to American medicine.

Back of the capitol on a pediment of the House Wing there is a mute reminder which has been sorely neglected by the people who fix our policies and make our laws. It is doubtful if those who make speeches in Congress ever take a look at Paul Bartlett's exquisite sculptured representation of democracy protecting the arts of peace. We wonder how many of our representatives know about this symbolic representation of our democracy and appreciate its meaning. For half a century it has protested the inroads of bureaucracy.

Among the arts of peace what is more sacred than the patient-doctor relation. "Great God of hosts, be with us yet."

WHAT CHOICE AMERICANS

Since there seems to be no difference in the ultimate outcome whether a country goes communistic or socialistic why do we choose to walk on the edge of the socialistic chasm when we might easily remain in the middle of the road where we belong and where we cannot fall. Though we may expect attacks we will be more secure if we stay away from the brink of the precipice. The constitution and common sense should constrain us. As Americans we must stay in the middle of the road and keep America free.

Would it not be wise for the medical profession to cease talking about socialized medicine and fight for freedom. This would help defeat both Communism and Socialism and leave medicine undisturbed in its legitimate field as a free enterprise.

SCIENTIFIC ARTICLES

TEN YEARS PROGRESS IN OPHTHALMOLOGY*

C. G. STUARD, M.D.
TULSA, OKLAHOMA

Medical science has made great advances during the past decade. Many diseases and injuries which previously resulted in death or crippling deformities are now less formidable to the physician and surgeon due to improved methods of treatment. Ophthalmology has also kept astride with new and improved methods to preserve man's most precious possession, good vision. Many procedures and medicaments formerly used are now delegated to the past.

Trachoma which was an incurable disease in 1937, is now rarely seen due to the use of the sulfonamides. In 1938, in the Journal of the American Medical Association[1], a preliminary report was published upon the use of sulfanilamide in 150 cases of trachoma in Indians. This work and subsequent work stimulated a new approach to this disease. Oklahoma once ranked high in incidence of blindness due to trachoma since we have a large Indian population. Ten short years ago opthalmologists dreaded to see a new case of acute trachoma due to its prolonged course and its resultant loss of vision.

The usual procedure for the aged patient with cataract 10 years ago was a prolonged waiting period of poor vision. This was felt to be necessary to enable the crystalline lens to mature or ripen. The operative procedure in use was that of extra-capsular extraction which in itself many times necessitated a second operation known as discission. Cataract patients may now be operated when vision is below that of the patient's requirements to carry on his or her duties. A farmer may choose to postpone his operation longer than a business man. Cataracts are now removed in the capsule which permits earlier removal and eliminates the secondary operation of needling. The incidence of post operative complications have also been reduced by the intracapsular method.

Many parents were told 10 years ago to wait and see if their child's eyes would straighten spontaneously. This is also done to-day but much less frequently. The general physician and the public are more alert to motor anomalies in children. The modern mother of a child with strabismus consults an ophthalmologist early. Many cases of strabismus are due to errors of refraction and a resultant faulty fusion faculty which can be corrected without surgery. These cases should be seen as early as two years of age. At this age proper corrective lenses can be prescribed. Cases of strabismus requiring surgery should be operated prior to school age to prevent permanent psychic damage. Nothing is more damaging to a young girl's personality than the presence of a crossed eye.

Retinal detachment was only a few years ago considered a hopeless catastrophe resulting in blindness. The typical story was a sudden loss of vision in one field followed by a total blindness. The improvement in results obtained from retinal detachment surgery can be attributed to the basic fact that a retinal tear is usually present. If this tear is accurately localized and the surgery is directed to the closure of this tear a higher percentage of good results can be attained. The larger eye clinics who 10 years ago reported 20 per cent results in retinal detachment cases are now reporting 50 to 60 per cent results. Greater results will be attained when pre-existing retinal diseases are solved.

The sulfonamides and antibiotics have revolutionized the treatment of many ophthalmic pathological states. Gonorrheal conjunctivitis 10 years ago resulted in blindness in a high percentage of cases. This

*Presented before the General Session of the Oklahoma State Medical Association at the Annual Meeting May 18, 1948.

disease rarely occurs to-day due to proper prophylaxis but if it does occur the proper use of sulfonamides with penicillin usually results in a cure without complicating loss of vision. Cases of interstitial keratitis formerly seen too frequently in the course of congenital syphilis have been reduced in number due to recent advances in pre-natal care of syphilitic mothers. The overall complications of syphilis as manifested in the eye are being reduced each year. The dreaded disease of serpiginous ulcer of the cornea due to the pneumococcus is now successfully prevented by more intelligent treatment of corneal foreign bodies and abrasions. The perforation of the ulcer with resulting loss of the eye is now prevented by the use of sulfonamides and the antibiotics. Many external infections of the eye have been controlled such as orbital cellulitis, retro-bulbar abscesses, infections of the tear apparatus and others.

The anticoagulants have been life saving drugs in the treatment of cavernous sinus thrombosis. The use of heparin usually requires the team work of an ophthalmologist and internist.

X-Ray and radium have been utilized in the treatment of certain eye conditions which were previously not responsive to known methods. The beta rays of radium emination are now used in a variety of eye conditions; vernal conjunctivitis with its severe incapacitating symptoms of tearing, burning and stinging responds to the proper use of beta irradiation. Pterygium is a common eye disease in Oklahoma due to prevalent wind and dust. Many pterygii recur even after a properly performed operation. These cases are more difficult to control than the original pterygium. Vascularization of the cornea with resultant corneal opacities reduces vision if located in the pupillary space. The use of beta irradiation for recurrent post-operative pterygii has proven itself to be a sight saving procedure; sclerosing keratitis due to tuberculosis 10 years ago left the opthalmologist helpless to prevent almost total loss of vision. The central corneal infiltrates were fed by new vessel formation which ultimately covered the entire cornea. These cases are being controlled with the use of beta irradiation to occlude the invading vessels. X-Ray was previously believed to cause cataract and retinitis except in small, protected doses. Many vascular conditions of the retina such as angimatosis retinæ and retinitis proliferans show evidence of being arrested with posterior irradiation of the globe. The use of radium and X-Ray for the treatment of malignancies is well known. X-Ray has been found useful in the treatment of certain sulfonamide and penicillin resistant ulcers such as those caused by the pyocyaneus bacillus. The dosage of X-Ray now used in therapy is much greater than used 10 years ago.

There has been a great deal of publicity in the lay press regarding the corneal transplant operation. Eye banks have been established in the larger cities to provide donor corneas for patients in need of this operation. It must be stated that corneal transplantation is not as commonly indicated as the lay press implies. This operation has advanced by the adoption of simpler methods and the wise selection of suitable cases. Many people believe that new eyes may be grafted from one patient to another. Corneal transplants are only successful in those cases of corneal opacities in which a normal posterior segment is present and in which healthy corneal circulation can be established. Corneas which are completely damaged by such chemicals as household lye will not yield to successful transplantation. A reasonably healthy corneo-scleral circulation must be a primary requisite for operation.

The use of contact lenses has also been widely publicized by over-enthusiastic optometrists and manufacturing opticians. Contact lenses 10 years ago were obtained from Germany and were made of glass. Fitting was by a trial and error method and the patient usually was able to wear these lenses for only a short period of time. Contact lenses were originally designed for patients with conical cornea. These patients cannot see with ordinary spectacle lenses. Contact lenses to-day are made of plastic and are fitted by means of molds taken of the patient's eyes. This method has greatly increased the wearing time and to-day contact lenses are worn by thousands. Professional people such as actresses, athletes and those appearing before the public wear them. Contact lenses do not replace ordinary spectacles but do answer a definite need. The big problem which has not been solved in contact lenses is the discovery of a non-irritating, optically inactive solution. More failures are due to the patient's intolerance to the solution rather than the lens itself. Many young women who have a high degree

of myopia wear contact lens for social occasions.

Glaucoma remains the outstanding cause of blindness which has not yielded to modern research. The methods of diagnosis and treatment of glaucoma have not been improved upon over those of 10 years ago. The incidence of glaucoma is increasing, especially those types occuring after the fourth decade of life. In many instances there are no warning symptoms of the disease to prompt a patient to seek aid. In many other instances these early warning symptoms are not recognized and the patient is given a new pair of glasses by an optometrist who is not trained to recognize early glaucoma. Smaller communities do not have the services of an ophthalmologist and must depend upon optometrists for glasses. In some small communities glasses are prescribed by a jeweler who uses a trial and error method. One of the greatest services the small town physician can render is to advise his patients who are complaining of visual difficulties to go to a qualified ophthalmologist. There are many types of glaucoma and each case is an individual problem. There is a prevalent belief among the people and some physicians that an operation for glaucoma is done as a last resort and that failure is sure if surgery is done. Cases of juvenile and congenital glaucoma are most discouraging but some vision can be retained if prompt treatment is instituted.

The general physician can also benefit himself and his patient if he routinely checks visual acuity in the course of general physical examinations. Pre-school visual examinations should be prescribed as a routine for all children. A normal examination should be gratifying to the parents and the physician. Many children enter school definitely handicapped because of poor visual efficiency. Many cases of psychiatric misfits and juvenile delinquents are traceable to poor vision in early school life. Many parents unfortunately believe their children should not wear glasses. These people must be educated if we are to reduce the rolls of charity institutions. Many systemic diseases are manifested by certain eye findings which enables the ophthalmologist to advise his patients to seek general medical care. The present day emphasis on hypertension, arteriosclerosis and cardio-renal-vascular diseases necessitates the close cooperation between the general physician, the internist and the ophthalmologist. Surgery of the sympathetics aimed at alleviating the damage of hypertensive states is many times based on the findings as seen in the eye grounds. The classification of arteriosclerosis and vasospastic hypertensive states can only be accurately done by ophthalmoscopic findings. This is of extreme importance both as to therapy and prognosis. Diabetes, nephritis, blood dyscrasias and many neurological diseases are often first seen by the ophthalmologist. The importance of early recognition of these conditions is evident.

In conclusion it can be stated that as people live longer due to the increased efficiency of medical science it is an absolute necessity that vision be intelligently preserved. As the life span increases, the incidence of degenerative disease, arterio-vascular accidents and malignancies increase. These conditions are just as prevalent in the eye as in other organs of the body. Ophthalmology has made great advances in the past decade due to the close cooperation between the ophthalmologist and other specialties of medicine. Acute infectious diseases are being conquered in the eye as they are in other parts of the body. The conditions do not offer as great a challenge to medicine as do the degenerative processes which occur after age 50. To enable a man to live past 70 in blindness or helplessness due to poor vision would not be a credit to medicine. As we strive to help man live longer we should also strive to help him see.

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OKLAHOMA STATE MEDICAL ASSOCIATION

ANNUAL MEETING

Tulsa, Oklahoma May 16, 17, 18

Mayo Hotel

FOOD INFECTIONS AND INTOXICATIONS*

F. H. TOP, M.D., F.A.C.P., F.A.P.H.A.
DETROIT, MICHIGAN

Food poisoning is a general term which includes food infections and intoxications and which loosely interpreted refers to ill effects induced by ingestion of food or drink containing substances pathogenic to man. Thus, illness resulting from food containing chemicals, animal or plant derived poisons, bacteria and their products or parasites might be included in the category of food poisoning. In fact, the diversity of inciting agents with non-uniformity of signs and symptoms has led to variation in classification by different authors. Perhaps no classification can be entirely exact, for there are discrepancies which are difficult to reconcile. Food poisoning by rather common consent has come to include salmonellosis and the two toxin-induced entities staphylococcus food poisoning and botulism. Certain other conditions excluded from the generally recognized group are briefly discussed. These are chemical poisons, animal and plant poisons, "food-borne" infections and parasites.

Chemical poisoning may occur as the result of accidental or intentional placement of a poisonous chemical in food or drink. Sodium fluoride may be mistaken for baking powder, flour or soda in the domestic or commercial kitchen. Lead or arsenic has intentionally been placed in food to poison animals, occasionally to kill a human and, used as sprays for fruit, has caused illness in humans. Antimony and cadmium have been implicated in outbreaks due to food cooked in utensils the plating of which contained these chemicals. Poisoning due to chemicals is usually characterized by a short interval between ingestion and onset of symptoms; the time varies between 10 minutes and a few hours. Antimony and cadmium cause abdominal cramps, vomiting and diarrhea about a half hour after eating the poison-containing article of food whereas sodium fluoride, in addition, gives rise to paralysis of certain muscle groups.

Poisoning due to animals or plants must be considered in differentiation but today occurs rather infrequently in the United States. The following plants have been implicated: rye, affected by the fungus Claviceps purpurea, causing ergotism; poisonous types of mushrooms, rhubarb leaves, causing oxalate poisoning; snakeroot poisoning from drinking the milk of cows pastured where the plant is indigenous; and favism induced by eating the fava bean or contact with the blossoming plants. An example of animal poisoning is that caused by eating mussels at certain times of the year. Clinical manifestations vary in the group, for example, respiratory and other motor paralyses in mussel poisoning, severe abdominal pain, nausea, retching, watery diarrhea, and intense thirst in mushroom poisoning, while favism is characterized by severe anemia, hematuria, hemoglobinuria and jaundice.

Bacteria and their products are responsible for the majority of outbreaks of food poisoning and the foods involved are usually those in which the causative agent can grow or produce its toxin. This fact differentiates the typical food poisoning due to bacteria such as the Salmonella and those due to production of toxin by staphylococci and Clostridium botulinum from sporadic occurrences or epidemics of certain infectious diseases which may have some characteristics similar to food poisoning. Another characteristic feature of an outbreak of food poisoning is the explosive nature of the illness, though botulism is an exception to this. The characteristic explosiveness is a function of ingestion of hundreds of millions of organisms which multiplied in the affected food or of toxin preformed in the food prior to ingestion. In contrast, so-called "food-borne" infections are those which may be transmitted by food contaminated by organisms and which, in general, cause specific infections, such as typhoid and paratyphoid fevers, amebic and bacillary dysentery, trichinosis, undulant fever

*Presented before the Section on Medicine at the Annual Meeting of the Oklahoma State Medical Association, May 17, 1948.

and some infections due to parasitic worms. Nearly all such infections occur after relatively longer incubation periods. Outbreaks are usually not explosive in character and secondary cases develop for weeks and months thereafter.

Various other conditions not related to food infections may be confused with them, particularly by the lay public. Frequently when gastrointestinal symptoms follow ingestion of food, a diagnosis of "ptomaine poisoning" is made by the uninformed. The term "ptomaine" is a misnomer for there are no substances which can be so called. According to Dack[1] the term "ptomaine" was introduced in 1870 by Selmi and the word is derived from a root which means "corpse." The idea of putrefaction is probably incorporated in this word and with it the popular belief that spoilage of foodstuffs was a cause of food poisoning. If organisms or their toxins, pathogenic to man, are incorporated in an ingested food, then food poisoning may result but in many instances the process of putrefaction adds to the flavor of a food, as for example Limburger cheese. Vague syndromes predominantly gastrointestinal in character and called "intestinal flu" are often erroneously thought to be due to food poisoning by affected individuals.

FOOD INFECTION: SALMONELLOSIS

Food infection is an acute condition which occurs following ingestion of food containing bacteria (members of the Salmonella group) and is characterized in decreasing order of frequency by abdominal cramps, nausea, vomiting, diarrhea and fever. It is usually explosive in character and is thus distinguished from other infections with similar symptoms such as amebic and bacillary dysentery, trichinosis and acute gastrointestinal attacks of unknown origin. Other bacteria such as the alpha type streptococci, B. coli, Proteus vulgaris and members of the Aerogenes group have been implicated, but Dack[1] states they have not been conclusively incriminated. Salmonellosis is caused by a large group of organisms of which the commonest offenders in the United States are S. typhimurium (ærtrycke), S. enteriditis and S. choleræsuis (supestifer). Numerous other members have been involved and can be identified by the agglutinin absorption test[2,3]. The organisms readily grow in favorable media and in foods which are bland and moist. They are easily destroyed by boiling or by pasteurization temperatures.

The prevalence of the disease varies considerably, outbreaks are most commonly detected after banquets or other group meals[4], while sporadic cases are infrequently recognized and probably many instances of ordinary diarrhea may in fact be salmonellosis. The source of infection is multiple, man serving as a reservoir as patient or convalescent carrier while infected rodents act as such, frequently releasing organisms through their droppings. Ducks, turkeys, other domestic fowl and domestic animals have been found to harbor organisms. Transmission occurs through contamination of food by droppings of rodents, soiled hands of foodhandlers and consumption of infected foods. Age, sex and color play no important role in the occurence of the disease, for susceptibility is general and there is no evidence of lasting immunity. Although the amount of food eaten bears some relationship to apparent infection, the severity of the clinical course is not necessarily proportional to the amount of infected material eaten.

Pathological changes are most notable in the stomach and small intestine in mild cases while in severe attacks resulting occasionally in death ulcerations are found in the small and large intestine.

The incubation period of salmonellosis has a range of six to 48 hours with the shorter period for very susceptible individuals and longer periods for the less susceptible with mild infections. The onset is abrupt with abdominal cramps, nausea, vomiting, and diarrhea; fever may not be present. Diarrhea persists for several days with stools containing bulky offensive material early and later becoming watery. Organisms can frequently be cultured from stool specimens. Persistent vomiting and diarrhea depletes body fluids, which may result in a temperature rise. Prostration and death may occur in 24 to 36 hours. Central nervous system phenomena are occasionally noted and convulsions are not uncommon in children. Critically ill adults may exhibit signs of shock. The prognosis is generally favorable and recovery takes place in a short time, usually within one to three days. A severe attack leaves the patient in a weakened state and full recovery is a matter of a week to 10 days.

The diagnosis may be difficult in the sporadic case but in outbreaks the organism is frequently found in offending articles of food, in vomitus or feces. In staphylococ-

cus food poisoning the incubation period is much shorter, the onset more abrupt, the symptoms in general more severe and recovery more rapid. In botulism, gastrointestinal symptoms are not striking and central nervous system phenomena are prominent.

Treatment is directed at replacement of fluids and salt. Water may be given by mouth, if tolerated, but salt replacement usually demands intravenous therapy including a 10 per cent solution of glucose. If the condition is discovered early an emetic and a brisk cathartic may be useful, but these should not be used if vomiting and diarrhea have been present for several hours. Morphine should not be used to decrease the intestinal motility or tenesmus until the bowel is empty of waste products. After vomiting ceases, Kaolin or a bismuth preparation may be given by mouth to promote absorption of bacteria and their products. Heat applied to the abdomen relieves the cramp-like pain. Sulfonamides and antibiotics have been disappointing. During recovery the diet should be fluid, for the gastrointestinal tract will not tolerate a full meal. Semisolids may be resumed after successful retention of milk, custards, eggs or soups for a period of several days.

Prevention of salmonellosis consists in providing pure, well preserved and cooked foodstuffs. Leftovers should be properly refrigerated and consumed or destroyed within a few days of preparation; before use, the leftovers should be inspected for foul odor or change in color. Rodents should be eliminated from foodhandling establishments; foodhandlers should be instructed in cleanliness and the proper preparation, care and refrigeration of foods and prevented from working while suffering from diarrhea.

Cases should be reported to the health department and the source of infection investigated and determined, if possible, by obtaining a sample of the offending food. The patient should be isolated and his discharges disinfected. Contacts and the premises need not be quarantined.

FOOD POISONING OR INTOXICATION: STAPHYLOCOCCUS

Staphylococcus food poisoning occurs as the result of ingestion of preformed staphylococcus toxin (enterotoxin) which causes an abrupt and sometimes violent gastrointestinal upset accompanied by nausea, vomiting, prostration and occasionally severe diarrhea. The condition is caused by staphylococci, certain strains of which produce a potent toxin which causes the enumerated symptoms. Staphylococci are ubiquitous in man and are found on the normal skin and mucous membrane and pathologically on skin as the etiological agent of some pimples, boils, furuncles and impetigo.

The distribution of staphylococcus food poisoning is worldwide and it is probably the commonest form, but not being reportable, its prevalence is not known. Furthermore, the condition is often so mild that many individuals do not seek the aid of a physician. Many kinds of food have been involved, among them milk products, baked goods, meats and fish[5 6 7]. The commonest vehicle is custard and cream-filled pastry; also involved is milk from cows with mastitis, and milk contaminated by human carriers has been implicated. It is difficult to incriminate a person merely because nose and throat cultures are positive; the organisms from both suspected carrier and from contaminated food must be enterotoxin producers and strain identification procedures are not simple and always conclusive.

Staphylococcus food poisoning is not communicable, and nearly all persons are susceptible, so that age, sex and color are unimportant factors in the occurrence of the disease. Transmission is by ingestion of food which harbors the enterotoxin. Outbreaks occur more commonly in the warm summer months, but cases have been noted at any time of the year.

The onset is abrupt and symptoms occur from half an hour to six hours after eating the toxin-containing food with two to four hours as the average period of incubation. Salivation is followed by severe nausea, vomiting or mild cramping may be found in mild cases but in the severe retching occurs and blood may be present in vomitus or stools. Symptoms are of short duration lasting three to six hours, after which recovery is complete.

The clinical diagnosis is made possible by observing that symptoms appear soon after food is taken, an effect on most of the group who partook of the food and the severity and brevity of symptoms. Additional evidence is furnished by isolation of staphylococci from suspected food and the demonstration of enterotoxin-producing ability of the organism by injection of filtrates into kittens, monkeys or human volunteers. Re-

cently bacteriophage typing has aided in tracing possible sources[8]. Treatment is supportative, for no drug or serum is effective. Emetics and purgatives are unnecessary because the severe bouts of vomiting and diarrhea eliminate the toxin. Replacement of fluids and salt are necessary, for dehydration may lead to shock or alkalosis. Because of the short duration of the nausea or vomiting, food can be given by mouth quite soon after an attack. Fluids are preferable at first and solids may be used within 24 hours, if tolerated.

Prevention consists in care in preparation of food, exclusion from foodhandling if suffering from pyogenic infections, especially of the hands; and the exclusion of persons with colds and paranasal sinus infections. There should be proper refrigeration of foods, particularly those known to serve as good media for staphylococci.

Cases should be reported so that the source of toxin may be found and its cause eliminated. Contacts and premises need not be quarantined.

FOOD POISONING OR INTOXICATION: BOTULISM

Botulism is a particular type of food poisoning resulting from the ingestion of food containing the toxin of Clostridium botulinum or parabotulinum and characterized by central nervous system involvement particularly affecting the motor innervation of the ocular and pharyngeal muscles. There are five types of the organism, namely A, B, C, D, and E. Human botulism has been reported as due to Types A, B and C. The organisms are free-living, spore-forming, and grow in the absence of oxygen in decaying animal or vegetable matter or in improperly sterilized foodstuffs, of which the chief offenders have been olives, asparagus, navy and string beans and meat.

According to Meyer[9] and his associates, the organisms are rather prevalent in nature. Botulism has been reported from many countries[10] as the result of toxin production in foods preserved in a number of ways. Commercial canned foods are now relatively safe, but home-canned fruits, vegetables and meats have been affected. The source of toxin is improperly cooked and processed food in which botulinum toxin has been produced, and the condition results from eating food which contains the toxin. Age, sex, color, season or economic status appears to play no part in the incidence of botulism.

The disease is highly fatal in the United States and pathological findings are limited largely to the central nervous system and the endings of the parasympathetic nervous system. Changes are noted on microscopic inspection, and these include congestion, edema, petechial hemorrhages and occasionally thrombosis.

Symptoms usually occur within 18 to 24 hours of eating food containing preformed toxin, a period much longer than noted for staphylococcus food poisoning, and the onset is also somewhat less abrupt. The first presenting symptoms and signs are dizziness, weakness, visual disturbances and drooping of the eyelids. Gastrointestinal symptoms are not generally marked but there is obstinate constipation. The cranial nerves are affected and those most frequently involved cause pharyngeal and palatal paralysis, respiratory difficulty and loss of voice. In severely affected patients prostration is severe with effort difficult, exhausting or impossible. Sensory disturbance is not marked, and the patient is rational. There is little change in body temperature but the pulse is rapid. Pneumonia may result from aspiration of mucus due to difficulty in swallowing. Death is likely the result of respiratory paralysis or pneumonia. The diagnosis of botulism is more often confused with other central nervous conditions than with food infections or intoxications. Conditions causing the most difficulty are encephalitis, poliomyelitis and the serous or nonsuppurative meningitides. In none of these diseases does the patient appear so lucid mentally and yet show marked prostration. In addition, history, occurrence of similar cases, delayed symptoms after ingestion and a negative spinal fluid assist in the diagnosis. Laboratory evidence as furnished by sudden death of mice or guinea pigs fed with the suspected food and recovery of toxin aid in confirmation.

If seen within 24 hours of the onset of paralysis or before it has occurred, serum may be administered with some expectation of benefit. Following a test for serum sensitivity, 10,000 to 50,000 units of polyvalent botulinus antitoxin should be given intramuscularly with the larger dose suggested for adults and those severely ill. The patient should be given glucose in saline or water and where pharyngeal paralysis is present fluids should be given by vein and interstitially. Washing out the stomach is of value only if the condition is recognized early. Nursing care should be limited to essentials because of the profound weakness,

and absolute rest is imperative. During the first few days the patient should not be allowed to move, and bathing and unnecessary moving of the patient by attendants must not be permitted.

Prevention consists in governmental control through inspection and regulation of commercial processing of canned and preserved foods. Housewives should be educated in the essentials of safe processing of home canned food. Food from swelled cans should be destroyed, and any question of spoilage should lead to discarding the food.

Botulism is reportable but does not demand isolation or quarantine precautions.

SUMMARY

A varied number of conditions may be called food poisoning, but rather wide acceptance has limited the term to salmonellosis, staphylococcus food poisoning and botulism. The enumerated diseases are discussed, and variations in their behavior are outlined along with suggestions relating to treatment and prevention.

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PROBLEMS IN NUTRITION

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With a significant decrease in the arable land area of the world, in the presence of a rapidly increasing population — two and a quarter billion today, three billion 25 years hence — it is understandable that all thinking people must feel a growing concern over the ultimate outcome. Food becomes more and more important. Bodily vigor and mental acumen can no longer be taken for granted.

This paper will cover a very few of the problems apparent to the discerning physician in our section of the U. S. A. But even with these limitations it may appear to those who have given serious, recent thought to nutrition that we are proposing an optimum diet before such a diet has been devised; specific treatment for nutritional deficiencies before such can be diagnosed; and to do all this under the joint handicaps of, on the one hand, inadequately educated, insecure people, and, on the other, foods grown on depleted soils or robbed of their vitamins and minerals by man, or, which may be much worse, glamorized with harmful non-food substances to increase their salability.

With the exception of mother's milk for the infant, we do not have an optimal diet; we still are unable to diagnose many nutritional deficiencies; our housewives are woefully uneducated in the fundamentals of biology and many are quite unable financially to afford necessary food; nor can we prescribe even such staples as bread, meat, and milk with complete assurance. Yet all these problems must be faced, and faced by the practicing physician. It is a definite responsibility he cannot evade. No nation can be stronger that its citizens and no citizen can be stronger than the food he eats. Nor does any one group possess as much practical understanding of the basic needs of the individual born, or to be born, as the medical profession.

We already know enough to make a good start in the matter of food and we do have the requirements of the *optimal* diet as set forth so clearly by Carlson. The requirements can be kept in mind whenever prescribing *any* diet and a constant effort be made toward meeting them in the light of the increasing knowledge of the science of nutrition as this unfolds. An optimum diet,

in Carlson's view, "should consist of the kind and quantity of foods as provide optimum resistance to disease; optimum conservation of the factors of safety and the powers of repair; optimum length of life and optimum efficiency within the framework of the individual's potentialities. And all this in the light of the sequelae of such accidents and diseases as the patient may have had."

DIAGNOSIS

More attention will be given to diets later on. Right now let us consider the diagnosis. So thoroughly have we been drilled in the necessity of making a diagnosis — one duly recognized and set forth in our text books — that no satisfactory method has yet been devised to approach the correction of nutritional deficiencies until these shall have become clearly recognized as diseases. Once a symptom-complex has been recognized as a deficiency disease a therapeutic diet is almost automatically set up. Too often it is forgotten until the patient presents himself to another physician with a new, but none-the-less severe, set of other deficiencies.

What do we mean by a nutritional *deficiency* and how detect it? Here all is confusion. There once was a time when nutritional deficiences meant deficiency diseases. And deficiency diseases meant clear-cut entities like xerophthalmia when Vitamin A was lacking; or beriberi when B was lacking. It was all very simple. Nutritional deficiencies meant deficiency diseases and deficiency diseases meant deficiencies of one or another of the vitamins. To be sure goiter appeared in those countries deficient in iodine but goiter had a whole space to itself in the medical literature. It was not included with the deficiency diseases. Further to complicate matters, investigation revealed Vitamin B to contain not one but two factors, then three, then four, and so on until the chemists have identified and synthesized close to a dozen. World War I came along, and, as an aftermath, starvation and near-starvation for vast hordes of children in the ravaged countries. Many swelled and became near-translucent. They lacked proteins. Protein deficiency, previously known, then became widely recognized and added to the deficiency disease list.

As a whole, however, the classification of the various nutritional deficiency states is yet to be worked out and officially adopted. Meanwhile, the classification proposed by Miranda in a recent article in the Journal is worthy of serious consideration. Likewise we are indebted to him for initiating a new concept in diagnostic procedure — the concept of statistics — in arriving at an individual diagnosis. He does this, dramatically, in the case of dry hypoproteinosis.

Miranda classifies the nutritional deficiencies into (a) those lacking calories; (b) those lacking vitamins, one or more; and (c) those lacking protein. He does not include those lacking minerals. To the first he gives the term undernutrition; the second, malnutrition; and the third, hypoproteinosis. The latter he divides into the wet and the dry types. The wet we have already considered. The dry, diagnosed statistically, is infinitely more prevalent. Miranda recognizes dry hypoproteinosis in entire populations by a high general mortality rate; high infant mortality rate; high mortality rate from the infectious diseases of childhood; high incidence of the gastro-intestinal diseases; high natality (birth-rate) index; and low figures of height and weight of the population. So far so good but what of those disease states induced by lack of minerals. We have in mind the correlation of types of soil in Oklahoma with the percent of men physically disqualified by selective service. Or those of Cheshire, England. Are these differences in physical health due to mineral deficiencies or to some other factor or factors? If to a deficiency of minerals should they not be classified as nutritional deficiency diseases?

Faced with, potentially, hordes of inadequately fed patients what can the practicing physician do to correct the situation, using the facilities he now has?

He can start now, today, searching for the signs and symptoms of inadequate nutrition in every patient that comes to his office. He can also begin a one-man, training-on-the-job program of learning to detect these deficiences, using the senses he now has. He will soon be amazed to see that what he, heretofore, has been labeling signs of old age, are nothing more or less than signs of inadequate nutrition.

What the clinician most needs today is to develop a nutrition conscience, a method of approach and a technique. I give you mine for what they are worth. Each clinician must work out his own salvation. My own

interest in positive health was aroused when I learned that well babies could be kept well; that mothers, after all, loved their babies and wanted them to live and be well; that mothers could be taught; that I, too, could learn. Gradually, while I was working in Public Health there grew up the concept of health — optimal health. This, I would think, has best been crystallized in the poster revealing a healthy child as published by the Bureau of Home Economics. Why not keep this poster in mind in thinking of the well adult as well as the well child? A healthy child, this poster describes, as one having a happy, alert expression; sound, even teeth; deep, broad chest; strong, straight legs. What is there, other than inadequate nutrition, directly or indirectly, and trauma, that could change a child like this into the sort of adult who comes to us for help?

The clinician already has two very important diagnostic methods at his disposal — both of them as old as medicine itself — namely, history (Miranda's statistical method applied to the individual) and the physical examination. Not merely the ordinary physical examination by systems, but in addition thereto a very careful painstaking survey of skin, hair, nails, mucous membrane, stance, gait, expression, joint function, posture, etc. The concept of health, not disease, must be kept uppermost. Basic in the history is the food habits history. Try using the food habits survey to determine what the patient does eat and why he eats it. Try comparing your patient, any patient, with the concept of what that patient could have looked like had he been kept well-fed.

In our experience we find it invaluable to have the intimate, personal history of the food habits' of the patient before us before we set up for him the provisional diet we believe he needs to correct the inadequacies our study has revealed. This provisional diet is set up to cover, in so far as possible, the essential nutrients, proteins, fats, carbohydrates, mineral salts, vitamins, roughage, and water recommended for his age and status by the National Council of Foods. Occasionally all that is needed is a limitation of calories or an addition thereto. Much more often carbohydrates must be cut and proteins added. Very often the standard male diet of muscle meat, (or, what is worse, embalmed meat), white bread, and white potatoes must be augmented with supplementary minerals and vitamins, either in other foods or as drugs; or the female diet of coffee for breakfast, fruit juice for lunch and left-overs for supper fortified with something more substantial, again resorting to the nutritional essentials in the drug form, if necessary, to get the patient physiologically and psychologically ready for a saner way of life.

The menu-calorie diet sheet: To save time we have gathered pertinent information from one source and another onto a single sheet to enable us quickly to fashion an individual, personal diet for each patient. To get the best results this gives the patient considerable choice of kinds of food in each category. The patient is asked to do some homework by keeping an itemized record of the food he actually does eat and bring this with him on his next visit. This list is analyzed, audibly, in terms of the essential nutrients contained, thereby allowing the patient to learn by the fascinating method of eavesdropping. Sometimes one session is sufficient. With other patients the re-education in eating habits must go on week by week or month by month before the patient is converted to a saner view. Eventually one usually wins with all but the actual psychotic.

We now come to the last, and most baffling, of all the problems we have time to consider. That is, how to avoid recommending processed foods which contain adulterants, contaminants, or actual poisonous non-food substances. This, and its opposite, how to be sure the foods we do prescribe contain all the essential elements, necessary not only for the optimum health of the individual but the survival of the species, leads us to the final paragraph.

WHAT ARE OUR FUTURE GOALS?

These are many and varied — large, small, easy, difficult. Some purely professional, some to be carried out as the normal, natural responsibilities of any citizen. In the long run they include research in any of many kinds. Education and legislation must be considered. Soils must be rebuilt, conserved, intelligently used. Population shifts are bound to come. Urban to rural, rural to urban. Dissatisfied, inadequately fed animals, human or lower, search restlessly for food so long as strength permits. The wisdom of the physician is needed more today than the words of the advertiser. There is work to be done, of a kind and extent, within the capacity of each, but as one clear-cut professional objective, I would like to suggest the inclusion in the Council

of Foods and Nutrition of the American Medical Association, of a division in the study of non-food substances in processed foods. This idea is covered by Captain Maurice L. Silver in the November 22, 1947 issue of the Journal. Such a technical group, free from both governmental and business taint, could be invaluable in insuring a safer, more effective, dietary for all.

SUMMARY

We have pointed out some of the problems in nutrition facing the clinician including, (1) the need of further research in determining the composition of an optimal diet; (2) the difficulties in diagnosing the need of improved diets while the nutritional inadequacies appear in the functional, or, at most, the early structural, hence reversible, stages; (3) the time and patience required to change the patient's eating habits, once established, and (4) the deficiencies in essential nutrients or, on the other hand, presence of harmful non-food substances in that we do recommend, and (5) the need of consumer protection through the agency of skilled chemists working independently of either government or business.

SUPERFICIAL FOREIGN BODIES OF THE CORNEA*

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About 60 years ago in England there were many factory workers who became skilled in removing small particles from the eyes of their fellow workers. In the iron and steel trades, the workmen were especially liable to get foreign bodies in the eye. In all large steel and iron works, there were always a few workmen who gained quite a reputation in removing these foreign bodies. One man who was a time-keeper where about 1000 men were employed, had been recognized for 15 years as very skillful. He had extracted as high as 10 a day. It was very infrequent that he passed a day without at least one case. He used a lancet, which he kept clean by pulling it on a strop or wetstone. He was called a "mote remover." According to Webster a "mote" is a very small particle. Without a doubt many of these motes were skillfully removed, but on the other hand in some cases there was a great deal of bungling, both as a result of unsuitable instruments and from lack of sterilization. These mote removers would back the man against the wall, and without using anesthesia, proceed with the task at hand.

In large industrial organizations today we have modern medical care available at all times so that there is no doubt that the disabling sequellae from foreign bodies in the eye are much less frequent and less serious than they were 60 years ago. This paper will deal with superficial foreign bodies of the cornea as it is the most frequent of all eye injuries. It constitutes about 25 percent of these injuries.

Foreign bodies in the cornea although usually of little consequence can lead to serious complications with loss of vision. This condition is treated by all members of the profession. Even non-professional individuals try their luck in extracting these particles. The acuteness of pain, and the suddeness of onset demands immediate attention, so that most everyone at some time in life is confronted with this condition either as a patient, or as a good Samaritan. The cornea is very important to the individual and the function of the cornea depends upon its transparency.

Any condition which interferes with the transparency of the cornea, interferes with the vision of the eye. A very small particle can lead to ulceration and scar formation in the cornea.

It is of importance in understanding our subject to consider some of the characteristics of the cornea, especially because they differ in many important respects from those of other tissues. First, the cornea receives its nourishment by a process of simple diffusion of the intra-ocular fluid from the circumcorneal area. The fluid dialyses from the blood vessels and the diffusion

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takes place from the vascular plexus around the limbus, or from the fluid in the anterior chamber. This is quite different from the other body tissues, which are richly supplied with blood vessels. Second, the metabolism of the cornea is slow. Diffusion of the nourishing fluid takes place thru out the substance of the cornea as there are no preformed channels like lymphspaces or vessels. Third, there is a unique respiratory mechanism at the surface of the cornea—oxygen passes into the cornea from the atmosphere and carbonic acid passes out. Fourth, the extreme sensibility of the cornea is a protective characteristic.

It follows, therefore, that the two important considerations are the avascularity of the cornea, and the transparency of the cornea.

The pathological processes are sluggish, chronic, and somewhat intractable as a result of the lack of blood vessels, or lymphspaces.

Upsets which are considered slight in other tissues such as edema or tissue tension, are a serious matter to the cornea because its transparency is interfered with—and this is its dominant role.

Next in taking up a consideration of the epithelial covering of the cornea, we find that it is delicate, exposed, and has a low temperature, because of constant evaporation at the surface. It has an insecure anchorage to a smooth membrane beneath, because it slips readily over Bowmans membrane. In contrast to the epidermal layer of the skin which has a rich blood supply, —the epitheliæ layer of the cornea must derive its nourishment by diffusion.

Not withstanding these disadvantages the epithelium affords a remarkable safeguard against trauma because of the extreme delicacy of its sensitivity, and against infection because its superficial cells are impervious to all toxins which are ordinarily present except the gonococcus and diptheria toxins.

When trauma and infection act together the epithelial barier is broken. The deeper structures are vulnerable since Bowmans and Descimets membranes are permeable to toxins and the substantia propria is slow to mobilize defenses. In an uncomplicated wound the epithelium undergoes rapid healing, and when it alone is traumatized as by abrasion no permanent defect results. There is ingrowth of the cells from the sides.

The epithelium has a strong tendency to level or even up all irregularities of the corneal surface. So great is its regenerative capacity that epithelial cells may cover the margin and floor of an ulcer and even penetrate the ulcer and mingle with pus corpuscles between the lamellæ of the substance of the cornea. So rapidly does new epithelium grow that the entire cornea can be recovered in from four to seven days.

It is not uncommon to see the entire epithelium come away after the use of a strong cocaine solution—then within 48 hours the entire epithelium is apparently regenerated.

Wounds extending deeper that the epithelium always leave scars and opacities. Bowmans membrane is not reformed after being destroyed by wounds.

Many foreign bodies simply adhere to the corneal surface—others cause a break in the epithelium. A third group penetrate into the corneal substance and remain impacted. Those that pass entirely thru the cornea and into other structures will not be considered in this paper.

A great many foreign bodies are characterized in their symptomatology by a sudden onset, great pain, scratching sensation on batting the eye, redness, swelling, and copious flow of tears. Spasm of the lids is great in sensitive individuals. The face is congested and the patient holds his hand or handkerchief to his eye to keep the lid from rubbing.

Usually immediate stoppage of work is necessary. If the foreign body is located where the lids rub continually in the act of winking, the irritation is severe.

Sometimes on the other hand a small foreign body may be driven against the cornea so forcibly that it lodges under the epithelium, and at first gives rise to but little inconvenience because it offers no surface to grate against the lid. Patients may carry these foreign bodies for days and attribute their sufferings to other causes. Such cases are candidates for improper diagnosis unless a thorough examination is made. Many patients have been treated for conjunctivitis when an unrecognized foreign body was at fault.

In making diagnosis about the eye, the usual methodical routine necessary in all medical examinations is very important. One cannot just flash a light in the eye and immediately make a diagnosis. A step by step procedure is followed in a careful manner.

The patient frequently can tell you just when the foreign body entered the eye. If not, a history of doing some type of work which could cast small particles about may be elicited on questioning.

Under condensed and brilliant illumination the foreign body may be easily seen. Sometimes as in the case of emory particles, their location is only brought out by staining with two percent fluorescine or one percent mercurochrome. The cornea must be viewed from several different angles. An isolated dark pigment area in the iris must not be mistaken for a foreign body in the cornea. I have seen this happen. Abrasions are easily missed unless stains are used. Patients frequently advise the Doctor that the foreign body is up under the lid and that he will not have to look any further.

All acute inflammations of the eye should be stained routinely for an examination as to the possibility that a small particle may be lodged in the cornea.

Early removal of a foreign body in the cornea gives greater assurance of a better outcome. It should not be made to come out of its own accord. Thorough anesthesia affords greater cooperation of the patient. Once percent pontocaine solution is excellent. Two or three applications may be necessary in a profusely lacrimating eye. Time should be allowed for total effect to take place before beginning removal of the foreign body. A lens to condense the source of light so as to give a concentrated brilliant illumination is a necessity. Binocular magnifying glasses bring out the cornea in bold relief and afford greater visibility. The patient should keep both eyes open, and fix on some distant object.

Of the many foreign body spuds, an ordinary 20 gauge needle on a five cubic centimeter syringe is useful in some cases. Dental type burrs are used to remove the stain at the edges of a crater made by a piece of rusted steel or iron. A little practice in removing these particles is helpful. One type of instrument will not serve for all the various foreign bodies one encounters. Each surgeon has his favorite instrument or group of instruments. Some particles leave a small stained ring. It is imperative that this ring be removed as it acts as a foreign body itself. It should not be expected to "slough out."

Examination of the upper lid for injury to its conjunctival surface may reveal a possible source of infection, such as an ulcer, or lacerated area which if overlooked may lead to the infection of the corneal wound.

Small foreign bodies which are simply adhered to the epithelium require simple touching with a very small cotton tipped applicator previously moistened in sterile saline or some other harmless solution. A word of caution in using this method is advised, for if the apparently superficial foreign body does not come away with ease, no attempt should be made to wipe or rub it off, this is not only futile, but causes an abrasion of the corneal epithelium which results in unnecessary pain later and predisposes to infection and recurrent corneal erosions at a later date.

Very fine particles can be removed under the slit lamp. Patients with nystagmus may be handled by making firm pressure on the eye ball thru the lids with the thumb and index finger. In this way movement of the eye can be controlled.

In elderly patients the tear sac should be investigated for chronic infection. Infants and small children require special care. They may be mumified in a sheet after a sedative is given. Lid retractors may be necessary. In some cases a general anesthetic is required with lid retractors and fixation forceps to steady the eye ball.

In the after care of these conditions the question of bandaging and medications arises. If the eye is quite irritated and considerable curettage was done, then two percent homatropine is instilled into the sac to relax ciliary spasm, and a bandage applied. Infection must be guarded against. It is recommended that medication be applied topically very frequently the first 24 hours. A selection of the type of medication to combat infection depends upon the degree of trauma. Mild trauma usually requires nothing more than boric acid solution, five percent neosilvol or one-half grain of zinc sulfate to the ounce of boric acid solution. More severe trauma may indicate five percent sulfadiazine ointment, 10 percent sulfacetamide ointment or 30 percent sulfacetamide solution. Penicillin topically seems to have a larger number of allergic reactions.* A prescription for two percent Butyn ointment or one-half Pontocaine ointment is given to the patient to be used as needed for pain until healing takes place. This affords gratifying comfort of the patient, and allows the physician freedom from calls during the night. When these

are given it is wise to protect the anesthetized cornea with a bandage. Bandages, cycloplegics, and anesthetics need not be used, if the foreign body is superficial, if irritation is mimimal, and if no extensive scraping of cornea was done.

The prognosis for these superficial injuries is good. Relatively few are followed by infection. In going over my records for the past two years, I find that of approximately 255 cases of all degrees, only five developed ulcers. These developed in situations where the foreign body had been in the cornea from two to three days, and where considerable instrumentation was necessary for its removal. Over half of all these injury cases were Rock Island railroad men, who have learned to seek early care.

*Since preparation of this paper Auromycin and Bacitracin have come on the market. It is recommended that they be given trials as prophylactics in these conditions.

THERAPEUTIC CONFERENCE

The University of Oklahoma School of Medicine
Presented by the Departments of Pharmacology, Medicine and Pediatrics

CARDIAC EMERGENCIES I

ARTHUR A. HELLBAUM, PH.D., M.D., R. Q. GOODWIN, M.D.,
ROBERT H. BAYLEY, M.D., PAUL W. SMITH, PH.D.,
BEN H. NICHOLSON, M.D.

DOCTOR HELLBAUM: A conference on some phase of medicine, surgery, or the specialties is held at 4:00 p.m. Monday through Friday in the Auditorium of the School of Medicine. While these conferences are primarily for Junior and Senior medical students, they are also available to all physicians as a supplement to the regular postgraduate courses sponsored by the School of Medicine. The schedule is a follows: Monday — Therapeutic Conference; Tuesday — Internal Medicine Conference; Wednesday — Clinical Pathologic Conference; Thursday — Alternately, Pediatrics or Obstetric and Gynecologic Conference; Friday — Surgical Conference.

This is the first of a series of two conferences on the treatment of acute situations arising in patients with cardiac disease. In keeping with the purpose of a Therapeutic Conference, we will assume the diagnosis has been made and will discuss only the treatment of the condition under consideration. Dr. Goodwin will discuss the treatment of acute congestive heart failure; Dr. Bayley will discuss the arrhythmias and other mechanism disorders; Dr. Nicholson will speak on cardiac emergencies in children; and Dr. Smith will discuss some of the drugs used in the treatment of cardiac emergencies.

THE TREATMENT OF ACUTE CONGESTIVE HEART FAILURE

DR. GOODWIN: The patient usually has both right- and left-sided heart failure; however, you will occasionally see a patient with either right- or left-sided failure. The patient with right heart failure is not so often an acute emergency. The patient with left heart failure, on the other hand, is frequently an emergency. This patient has dyspnea, and dyspnea is a very serious symptom in these cases. He is in acute distress and must be given immediate relief. The first requirement in the treatment of a patient with heart failure is adequate dosage of tincture of rest, but this patient is unable to rest because of the severe effort required to breathe. In order to obtain rest it is often necessary to use opiates. In a patient with severe dyspnea and orthopnea, I would rather have an opiate such as morphine than I would to have a shot of digitalis. They of course go well together, but rest is necessary. The patient with acute heart failure also needs to be more completely oxygenated, and this is possible by the use of oxygen either by nasal tube, or preferably by a mask if this is not the source of too much discomfort for the patient. After rest and oxygen have been provided then digitalis is the drug of choice. In most cases of heart failure, our primary purpose is to restore the tonicity or contractility of the heart and to slow conductivity so that a more efficiently operating myocardium will be able to do the work required for the maintenance of ordinary activity. I know of no drug which will affect these two charac-

teristics of the myocardium without also affecting the other characteristics of the cardiac muscle; namely, irritability, rhythmicity, and refractivity. The drug of choice for the treatment of heart failure is, of course, digitalis. The effects of digitalis on conductivity and tonicity are desirable. The effect on irritability may be undesirable, but we have to take the bad with the good.

We may then, divide the therapy of acute heart failure into three parts: symptomatic, substitutive, and specific. Symptomatic relief is afforded by the use of opiates in giving the patient rest and relieving the acute dyspnea. Substitutive therapy is provided by giving oxygen. The specific treatment of cardiac decompensation is digitalis.

THE TREATMENT OF ARRHYTHMIAS

DR. BAYLEY: Cardiac emergencies are relatively few. Most emergency situations connected with the vascular tree are extracardiac. There are a few disturbances of mechanism which create a cardiac emergency. One of these is auricular fibrillation. This is one of the most common arrhythmias. Auricular fibrillation occurs in paroxysms in people without any other evidence of heart disease. It also occurs in connection with chronic heart disease, usually relatively late when the patient has a large heart. The disorder tends to come in paroxysms and in the early attacks the ventricular rate is very fast. It may be as high as 200 a minute or more. After several bouts of auricular fibrillation have occurred, it may become chronic and the ventricular rate may become slow. When the rate is slow, no emergency exists. Our concern then is with auricular fibrillation and rapid ventricular rate. These people get a feeling of weakness and may actually faint. The pulse is unsteady, and the rate is so fast that the heart has no chance to fill. The treatment is to slow the rate immediately. This is best done by the use of strophanthin, a digitalis-like preparation, one of the cardiac glycosides which will have its full action within two hours. Ouabain or crystalline strophanthin, or strophanthin K, are all used. They are given intravenously, never by mouth, since they are not absorbed from the gastrointestinal tract. The dose is 0.5 mgm, varying in adults from 0.3 to 0.5 mgm. By using this drug with its full action occurring in two hours, we are then in a position to judge whether the patient needs an additional amount after only a two hour wait. Occasionally one can use digitoxin which acts as rapidly by mouth as it does by vein. In this instance one cannot judge the full effect of the drug until six hours have elapsed; thus if the dose has been insufficient, one must wait six hours rather than two hours as with strophanthin.

Another mechanism disorder is auricular flutter. Auricular flutter is no where near as common as auricular fibrillation. Here the circus movement is much more organized than in auricular fibrillation, and the ventricular rate is usually higher. The rate of ventricular beating is ordinarily dependent upon the grade of block in the junctional tissue. The rate is usually a multiple of 75; for example, 150, 225, 300, or more, and the faster the rate the more the emergency. One has a choice of two drugs here. The first choice would be quinidine sulfate. In giving quinidine, it is important to give a test dose of 0.2 Gm., because some people are very sensitive to this drug. If no untoward symptoms have developed within two hours, we may then go ahead with quinidine to treat the rapid heart rate. We may give either 0.4 Gm. every two hours or 0.2 Gm. every hour, not to exceed 2 Gms. in any one day. Much of the effect of quinidine is over within an hour, and approximately 90 percent is gone within two hours. Frequently, after continuing this drug for several hours, the mechanism will be stopped. Occasionally this procedure will not work; and quinidine having failed, we may use digitalis. Digitalis decreases the number of beats which reach the ventricles, which is the same mechanism which is used in treating auricular fibrillation to decrease the ventricular rate. There are times when we want to treat auricular fibrillation with quinidine — that is to cure it rather than merely to slow down the ventricle. In these cases, as a rule we digitalize the patient first and then use quinidine in trying to stop the mechanism disturbance. The reason we digitalize the patient before using quinidine is that quinidine may increase the rate of ventricular beating unless digitalis has been given previously. Digitalis itself will occasionally stop a flutter, and occasionally stop a fibrillation. Routinely, quinidine is used for the former.

QUESTION: Dr. Bayley, What is Stokes-Adams syndrome and how is it treated?

DR. BAYLEY: This is a mechanism disorder characterized by a very slow rate, with sometimes a temporary stoppage of the heart beat. We refer to this condition as Stokes-Adams syndrome. There may be disease which is damaging the junctional tis-

sues so that no auricular impulses reach the ventricles. In these cases, there may be a lapse of time or an appreciable interval between the stoppage of the impulses from the auricle and the beginning of the idiopathic ventricular rhythm. If this lapse of time exceeds more than a few seconds the patient loses consciousness and may have convulsions. This situation is an emergency. An idiopathic ventricular rhythm is needed. In other patients there is complete heart block and the ventricular pacemaker is not adequate. The heart may function satisfactorily for a while, and then stop for long periods with only an occasional beat. It is during this time that we have an emergency situation. The drug here is epinephrine 1 1000 in amounts of 0.5 to 1.0 c.c. intravenously, or since circulation has ceased because the heart has stopped it is better injected into the heart itself. There is another condition in which the heart may have a long pause and cause an emergency situation. This is a hypersensitive carotid sinus. It is usually seen in old people with hypertension. They turn the head, a stiff collar presses on the carotid sinus and the heart stops. The treatment of this condition usually requires avoiding pressure on the hypersensitive carotid sinuses. Medication is not needed; the patient needs instruction.

QUESTION: Dr. Bayley, how is tachycardia treated?

DR. BAYLEY: Paroxysmal tachycardia certainly deserves discussion at this time. There are two types of paroxysmal auricular cardia. The first is paroxysmal auricular tachycardia which may occur with or without block. When no block is present the ventricular rate may be very fast and an emergency situation exists. We can frequently stop an attack of this type by massage of the carotid sinus. Anything that stimulates the vagus will frequently stop an attack of paroxysmal auricular tachycardia. Pressure on the eyeball, or inducing vomiting with a teaspoon of syrup of ipecac will often produce this result. Some attacks are quite stubborn. After these procedures have been used and the condition still prevails, then either digitalis or quinidine may be used. If digitalis is used, it should be given in a rather large dose of at least half the amount required for digitalization. Slow digitalization will usually not help. Quinidine is used in the usual manner, beginning after a test dose.

In ventricular tachycardia, the situation is quite different. Here the ventricles are usually irritable and the patient most frequently has serious heart disease. Volleys or runs of ventricular extrasystoles, which are closely related to ventricular fibrillation, are present. Ventricular paroxysmal tachycardia is very serious as a rule. It tends to occur in patients who are already sick and is thereby the more serious. Here we have one drug which is important; that is quinidine sulfate. Digitalis is actually contraindicated in paroxysmal ventricular tachycardia. The increased irritability caused by digitalis may convert the paroxysmal ventricular tachycardia to ventricular fibrillation and cause death.

CARDIAC EMERGENCIES IN CHILDREN

DR. NICHOLSON: There are not a great many cardiac emergencies in children, but those we see are very definite. The first that we frequently encounter is the child with congenital heart disease who is cyanotic at birth and continues to be cyanotic until he dies. Some of these children have a type of defect in the heart which is incompatible with life; such as trilocular heart, bilocular heart, or some other cardiac defect. So far as I know there is only one thing to do and that is to give oxygen, which does not help a great deal. Apparently the only reason these children live as long as they do is that they are well saturated with oxygen when they are born.

Other types of congenital heart disease which are compatible with life occasionally present emergency situations. An example is the child with tetralogy of Fallot who may be subject to attacks of paroxysmal dypsnea and may himself assume a position to assist him in controlling the attack. If position does not give relief, perhaps morphine is the best drug to stop the paroxysm.

Occasionally we see a child with acute heart failure associated with acute nephritis. This is a real cardiac emergency. Of course the management of the nephritis itself may help to avoid this condition. Measures to reduce hypertension, such as magnesium sulfate and the proper limitation of fluids, may help but even so, these patients often develop an acute pulmonary edema. It may be necessary in these cases to bleed the patient.

Of course, we also have arrhythmias in children, but these are treated much the same way as an adult would be treated.

There are two types of acute heart failure which occur with diphtheria. One is early failure in diphtheria and the other is late.

Early failure occurs within the first few days of the disease in which the conducting system in the myocardium is damaged by diphtherial toxins. The heart fails, the patient has abdominal pain, he vomits, he gets dyspneic, and he dies. We have no very specific measures for treating this. Attempts at therapy may be made with hypertonic glucose solution. Of course, the best treatment is prevention, or if not prevention, then the early administration of adequate doses of antitoxin.

Late failure may occur weeks after the onset of diphtheria. This occurs in the process of repair in a heart in which there are not too many good fibers anyway. The few remaining fibers are choked out by new blood vessels, inflammatory cells, phagocytic cells, and by the fibrous tissue which replaces the damaged myocardium. These patients go into peripheral circulatory collapse and die. The management is unsatisfactory; any way it is attempted. We do give these children glucose and pressor substances to try to maintain their blood pressure.

We also have peripheral circulatory failure in patients with croup, and obviously the only way to treat these patients is to insure an adequate airway, by tracheotomy if necessary, and by giving oxygen.

I have seen one case of heart failure in an infant who was born with an omphalocele into which all the abdominal content had herniated. This baby was taken to surgery and the viscera were pushed back into the abdomen. A rather tight binder was applied with Ace bandage. This child went into circulatory failure which was relieved by loosening the dressing.

DISCUSSION OF THERAPEUTIC AGENTS

DR. SMITH: Oxygen has been mentioned as a therapeutic substance that is most useful in an acute emergency. I would like to mention a few things about the methods of giving it. The methods usually available at the hospital are the nasal catheter or the oxygen tent. Theoretically, the best way of giving oxygen is by a mask. Usually masks are available, but the patients do not like to use them. One of the main considerations is the percentage of oxygen that can be made available by these methods. The use of oxygen without some means of measuring the percentage available to the patient is frequently a snare and a delusion. Frequently when an oxygen tent is used there are so many leaks that it is very difficult to maintain a 50 percent concentration of oxygen except by a very high rate of flow. By rule of thumb, a 50 percent concentration is considered to be the point above which we benefit and below which we fail to aid the patient. The demand mask and valve which was developed for the army air forces is a very nice device which delivers oxygen from a high pressure source at atmospheric pressure only while the individual is inhaling; exhalation is to the atmosphere. I feel this device should be available to every individual physician for emergency use.

One of most efficient methods which I have seen for combining oxygen and rest is that of putting the patient with acute congestive failure in a respirator so that he is relieved of the effort required in breathing, the respirator being equipped with a means of supplying oxygen at a high percentage, approaching 100 percent. I have seen this method used in one instance; the cyanosis cleared up within a matter of minutes, and the patient was soon sleeping soundly. One difficulty which may be encountered here is that not infrequently patients fight against the respirator instead of adjusting to it. Next to the mask the nasal catheter is probably the second best method in terms of the concentration of oxygen available to the patient.

There are two other things that I would like to mention with regard to heart disease, but I shall put them into the form of questions.

First: What is the place of diuretics in the treatment of congestive failure on an emergency basis?

DR. GOODWIN: There is probably no drug which is more useful when used as an adjunct to the treatment of the patient with generalized anasarca than are the diuretics. There are several good mercurial diuretics on the market, such as salyrgan and mercupurin. We usually prefer to acidify our patients with such a drug as ammonium chloride in order to get a better effect from the mercurial diuretic. There is, however, no contraindication for the immediate use of a diuretic provided that you have no acute renal pathology.

DR. SMITH: My second question concerns the use of digitalis prophylactically in patients who are threatened with an impending cardiac emergency. From a theoretical point of view the administration of digitalis before the heart begins to fail would do more harm than good.

DR. BAYLEY: Whether or not digitalis should be given to the patient as a pro-

phylactic measure depends almost entirely on whether or not there is definite cardiac dilatation. Digitalis may actually decrease the cardiac output of the patient with a normal sized heart, but we have a whole group of patients who have larger than normal hearts and who are still asymptomatic. This is the group I am interested in at present. Enlargement represents a decrease in cardiac efficiency. Digitalis increases cardiac efficiency in enlarged hearts. It is conceivable that one might delay the onset of decompensation in a patient who, for example, has hypertensive heart disease and a modest degree of cardiac enlargement. We might delay the onset of heart failure by months or even years by the continued use of digitalis. I routinely recommend the use of digitalis in patients who have moderate or more cardiac enlargement; particularly, if it is due to increased work load on the heart. There are of course a number of other causes for cardiac enlargement in which digitalis will have very little effect. Among these might be myxedema heart; and a large heart of nutritional deficiency. When these types of disorders are the cause of cardiac enlargement we can expect little or no benefit from digitalis. In those patients with hypertensive heart disease, or where there is a valvular disorder and there is an actual increase in the work of the heart as a cause of the cardiac enlargement. Here digitalis may or may not be given, but the onset of actual clinical failure may be postponed by the use of digitalis. In people who have clinical signs of heart disease without cardiac enlargement; patients, for example with a murmur and no evidence of failure, and the heart has not begun to enlarge, I believe that digitalization is definitely contraindicated.

QUESTION: Dr. Bayley, how would you treat a patient who has had auricular fibrillation over a period of time and has already thrown one embolus?

DR. BAYLEY: That is a subject which is open to argument. My treatment, however, is to treat them the same as any patient with auricular fibrillation. The argument exists over whether we are going to precipitate further emboli from the thrombus which has formed in the atria during fibrillation. My answer to this is that we can not usually stop auricular fibrillation which has been present for a long time. You cannot stop it ordinarily, except in people who have it in paroxysms and have otherwise normal hearts, or in people with toxic goiter. Whether it is a different mechanism or not, I don't know. I think it must be. Personally, I wouldn't hesitate to go ahead and try. The deaths from embolism caused by stopping fibrillation; the thrombus being forced out by the strong contraction of the heart are rare indeed. I doubt if there are more than one or two reported in the literature. These very few cases, however, have been so over-emphasized that we are now afraid of attempting to convert auricular fibrillation back to the normal mechanism. Where it occurs in paroxysms, it can be prevented between attacks by the use of quinidine. In those cases of auricular fibrillation associated with toxic goiter, after the metabolic rate has been brought back to normal levels by thyroidectomy, approximately 60 percent will revert back by themselves. The remaining patients should be converted, two weeks after operation, before they leave the hospital. They are usually very easily converted.

QUESTION: According to the literature, the patient with acute early heart failure should be treated with oxygen, a mercurial diuretic, hypertonic glucose, morphine, aminophylline and rest. Some of these authorities lead us to believe that the acute distress these patients have can be relieved in a matter of minutes by this method. They indicate that these other drugs are more important that digitalis in the acute emergency situation. Digitalis of course may be used later to prevent the recurrence of symptoms. I should like to hear Dr. Goodwin and Dr. Bayley discuss this problem.

DR. GOODWIN: The pathologic physiology of this disorder is based on a lack of efficiency of the cardiac muscle. In these cases the pulmonary edema is caused by the fact that the dilated left heart is unable to carry out its work at a sufficient rate. Because of this fact, I know of no greater indication for digitalis than we have in this type of patient. I usually use one of the purified cardiac glycoside preparations such as digitoxin.

DR. BAYLEY: I have nothing to add except that if we used strophanthin, we might have a better opportunity to evaluate our results earlier and also the patient would get more rapid therapeutic effect. As to whether I would use digitalis or a mercurial diuretic — if I was interested in treating the edema alone, then the diuretic would be my choice. To treat cardiac decompensation per se, digitalis is the drug of choice because this heart is failing and certainly, if we can im-

prove the contractions of the heart so that we have a more normal pressure differential between the heart and the aorta then we will improve the coronary flow which is a consideration in this disease. Of course the most dramatic thing that can be done to these patients, and I would like to add this to Doctor Smith's statement, is to use a meter mask with positive pressure oxygen. By the use of this device the edema fluid is "forced back" into the circulatory system where it belongs. The patient may by this means be revived dramatically in a matter of minutes. Every hospital and every doctor should have a meter-mask available.

DR. JACK DONNELL: With the possible exception of using positive pressure oxygen, probably the most dramatic results in the treatment of patients with acute heart failure in which dyspnea is the chief complaint, are obtained by the use of morphine. The basis for the therapeutic use of morphine in this case is the damping of the Hering-Breuer reflex. This is the nervous mechanism which tends to limit respiratory excursions. It results from stimuli which pass up the vagus from the sensory endings in the lung and tends to limit both inspiration and expiration. It is initiated by stretching or collapse of the alveolar tissue as the result of changes of intra-alveolar pressures. In pulmonary edema there is a change in pressure both intra-alveolarly and in the inter-alveolar septa in which the sensory endings lie. Once this reflex has been depressed, then the patient's dyspnea improves dramatically. Other poorly defined reflexes are probably also affected by morphine in reducing dyspnea. The use of diuretics and the rest which has been made available to the patient by the use of morphine then usually will tip the balance back toward a compensated heart, and the patient may thus be able to get along for a period of time without digitalis. As Doctor Bayley has mentioned, it might be a good idea in these patients to give them digitalis in order to postpone the recurrence of decompensation; however, since even the rapidly acting intravenous strophanthin group of drugs does not begin to take action for from 20 to 30 minutes and the full action has not been obtained for approximately two hours, the use of morphine, and mercurial diuretics, along with the rest which is made available by morphine, may mean the difference between the patient's life or his death, until such time as the cardiac glycoside has begun to take effect.

DR. HELLBAUM: Cardiac emergencies associated with angina pectoris, myocardial infarction, and the problems of pericardial effusion and cardiac tamponade will be presented at the next session.

TWENTY-FIVE YEARS AGO

Dr. H. C. Manning, Cushing, has removed to a new home a short distance from the Municipal Hospital.

Dr. Shade D. Neely, Muskogee, was married to Miss Leila Roberta Hampton, at Tulsa, on Sunday January 6, 1924.

Oklahoma County Medical Society plans a medical library for Oklahoma City, which will be open to the public as well as the medical profession. For the present it is expected to have the library in a section of the Carnegie Library. Drs. W. L. Dersch, W. H. Miles and D. D. Paulus have been appointed a committee to collect and install the library.

Oklahoma Board of Medical Examiners has just completed reciprocity upon the basis of examination only with the Board of Medical Examiners with the State of Louisiana.

Dr. Charles E. White, Pawhuska, has removed to Muskogee, and has been appointed City Physician in charge of the new Muskogee General Hospital.

Dr. Lejla E. Andrews, Oklahoma City, accompanied by her sister Miss Mae Andrews plan to sail June 20, on an extended tour of Europe, visiting England, France and other countries, returning in September

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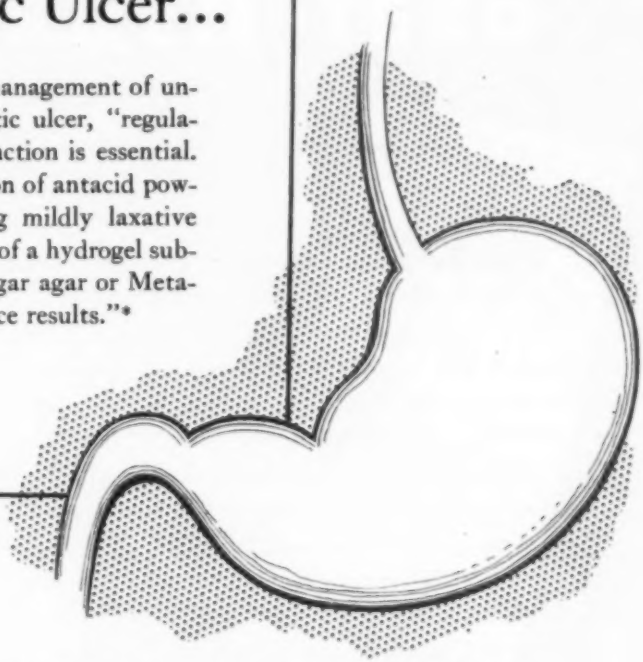

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SEARLE RESEARCH IN THE SERVICE OF MEDICINE

*Gerendasy, J.: Modern Treatment of Peptic Ulcer, J. M. Soc. New Jersey *43*:84 (March) 1946.

President's Page

Plans are almost completed for an interesting annual meeting of the Oklahoma State Medical Association to be held in Tulsa in May. I feel sure that all of the County Societies have elected delegates and that the doctors over the State will plan to attend the meeting. All of you may be sure that every effort will be made to arrange a scientific program that will appeal to you. You also can look forward to the annual dinner meeting at which an authoritative speaker will be presented who will speak on the economic and social problems in the practice of medicine today.

I trust that you and your families will take advantage of the opportunity to attend this important meeting.

C. E. Northcutt

President.

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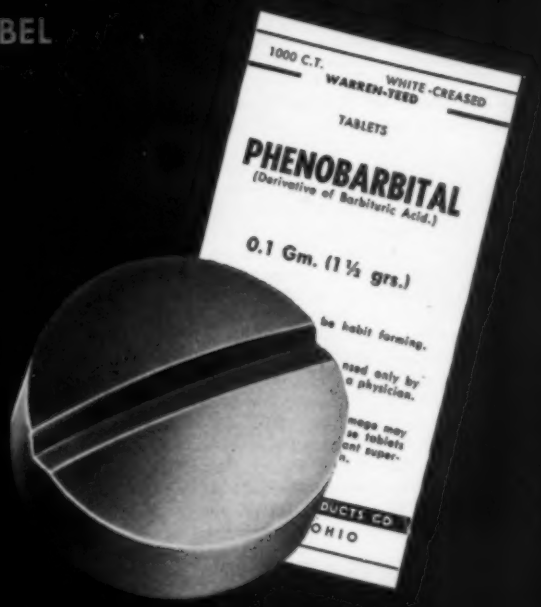

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GENERAL NEWS

LEGISLATURE WILL STUDY MEDICAL BILLS

Since January 5 the Oklahoma Legislature has been in session and at Journal press time no legislation of major importance to the medical profession had been introduced. The Board of Medical Examiners plans to secure the introduction of several bills during this session. They are:

1. Providing for the suspension or revocation of license of doctors of medicine who are declared insane.
2. Granting the power of injunction to the Medical Board to prevent violations of the Medical Practice Act.
3. Providing for the issuance of basic science certificates to those having passing grades in the required basic science subjects who took examinations prior to the passage of the basic science act.
4. Giving the Board of Medical Examiners power to require of all applicants for licensure in the State of Oklahoma, a propertly certified statement that they have served a one year's internship in a hospital recognized by the Board.

Each of these bills has been drawn by the Board of Medical Examiners and has received the approval of the Council of the State Medical Association. It is not anticipated that any of these bills will encounter any organized opposition. If opposition does develop, it will be necessary for the Public Policy Committee to enlist the aid of the membership throughout the state in securing passage of this needed legislation.

VA EXPLAINS MEDICAL CARE REQUIREMENTS

Hospitalization and outpatient treatment provided by Veterans Administration are *not* available to members of veteran's families, VA said in response to a number of inquiries.

Many wives of veterans were treated by Army and Navy doctors while their husbands were in service. Some wives now erroneously believe they also are entitled to medical treatment from VA physicians.

Only ex-servicemen and women, if discharged under conditions other than dishonorable, are entitled to hospital treatment under the following priority system:

First—Emergency cases.

Second—Those suffering from injuries or diseases incurred in or aggravated by military service.

Third—Those who state under oath they are unable to pay hospital charges for treatment of nonservice connected disabilities or illnesses. These veterans, if not in the emergency category, must wait until a bed becomes available.

Outpatient treatment is available only for veterans with service-connected disabilities. Each veteran's eligibility must be determined by VA before treatment of this type can be authorized.

ANNUAL MEETING PLANS UNDER WAY — RECORD ATTENDANCE EXPECTED

Plans are developing for the 56th Annual Meeting of the Oklahoma State Medical Association in Tulsa, May 15-18. The committee has announced that all booths for exhibitors have been contracted for with good response reported from all notices sent out. The program for the scientific sections will be announced in the April issue of the Journal with several outstanding specialists slated for the sections.

All members of the O.S.M.A. are urged to make their hotel reservations early. Requests should be mailed to the Tulsa County Medical Society, Medical Arts Building, Tulsa, Okla. Please state type of accomodation desired, number of persons, dates of stay, and time of arrival.

In addition to the scientific program, which includes lectures and roundtable luncheons, several social events are scheduled. A golf tournament will be held and the annual President's Dinner Dance is set for Tuesday, May 17.

SPECIAL ASSESSMENT DISCUSSED BY DELEGATES

The House of Delegates special session originally scheduled for January 30 in Oklahoma City was postponed until February 20 because of the weather.

This session was authorized by the Council and called by the President for the purpose of presenting to the membership of the Association as many details as possible in regard to the new Public Relations and Education program of the A.M.A. to be financed by the A.M.A. assessment of $25.00 per member.

Gunnar Gundersen, M.D., of LaCrosse, Wisconsin, member of the Board of Trustees of the A.M.A. was to represent the A.M.A. and present its program to the House of Delegates. Due to the publication requirements of the Journal it is not possible at this time to report proceedings of the special session completely. For a detailed report on action of the House of Delegates, see the April edition of the Journal.

INTERNAL MEDICINE COURSE POSTPONED

The Postgraduate Committee of the Oklahoma State Medical Association is still seeking an instructor for the postgraduate course in internal medicine although no instructor has been hired at this time, reports Gregory E. Stanbro, M.D., chairman.

Several applicants have been interviewed and several more have been contacted by mail, it was said. The committee had planned to have the internal medicine course begin the first of the year but because of the delay in finding a qualified instructor, the course may not begin until early summer. Southeastern Oklahoma will be the first circuit according to present plans.

During Pregnancy

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ANNOUNCEMENTS

American College of Physicians—Announces postgraduate courses for the spring of 1949, as follows: Electrocardiography, basic principals and interpretation, Boston, April 25-30, Fees, $60 for A.C.P. members; $120, non-members. Diseases caused by immune mechanisms, Atlantic City, New Jersey, April 28-May 1, Fees, $30 for A.C.P. members; $60, non-members. Cardiovascular disease, Philadelphia, May 2-7, Fees $30 A.C.P. members, $60, non members. Physiological basis for internal medicine, Philadelphia, Pa., May 14-19, Fees, $30 A.C.P. members, $60, non-members. Endocrinology, Boston, June 13-18, Fees $30 A.C.P. members, $60, non-members.

International Academy of Proctology—Newly chartered in New York State with charter memberships, associate fellowships and fellowships now open. Further information and applications may be made by writing Alfred J. Cantor, M.D., 43-55 Kissena Blvd., Flushing, New York.

American Nurses' Association—More positions are open for men nurses today that there are applicants, reports the A.N.A., which has recently launched a campaign to enlist the entire nation in a united effort to overcome the present nursing shortage. Public health, industrial and psychiatric nursing are especially suited for enterprising men who wish to enter nursing as a profession, it was said.

Oklahoma Academy of General Practice—First annual session March 18 and 19 in Shawnee. Information can be obtained from the O.S.M.A. Executive Office, 210 Plaza Court, Oklahoma City.

American Academy of General Practice—Scientific assembly, first annual, Netherlands Plaza Hotel, Cincinnati, March 7, 8, 9.

American Medical Association—Annual session, June 6-10, Atlantic City, New Jersey.

Oklahoma State Medical Association—Annual Meeting, May 15-18, Tulsa, Oklahoma.

Southwest Allergy Forum—April 4 and 5, El Paso.

Chicago Medical Society—Fiftieth annual clinical conference, Palmer House, March 1, 2, 3, 4.

The Veterans Administration received 76,945 requests for physical examinations during the month of October, 1948.

RURAL HEALTH CONFERENCE ATTENDED BY OKLAHOMANS

Attending the National Conference on Rural Health at the Palmer House, Chicago, February 4 and 5 were M. H. Newman, M. D., Shattuck, member of the O.S.M.A. rural health committee; Max Shanholtz, M.D., Wewoka, State Health Department; and John Hart, executive office representative.

John Hart also attended a meeting at Kansas City February 3. The Kansas City conference was sponsored by the Kansas State Medical Association and all states west of the Mississippi were invited to take part in the discussion on rural health problems, especially in regard to what can be done in securing cooperation from the American Farm Bureau Federation.

PUBLIC POLICY COMMITTEE NAMES FULL-TIME SECRETARY

Miss Jean McDuff has been named secretary to the Public Policy Committee of the O.S.M.A. and will work as a full-time employee in the Executive Offices.

Miss McDuff will prepare material for all types of subjects for which there is a sub-committee and help keep the program of all the sub-committees under the public policy committee working. These are: professional relations; radio, newspaper, public speaking; awards, contests, and literature; and visual education.

A graduate of the University of Missouri, majoring in journalism, she also attended the University of Oklahoma before going to M.U. For several years she has done newspaper and advertising work having been employed on a newspaper in Monroe, La. and as advertising manager of the Cohn Company in Little Rock, Ark. While in Little Rock, she was on the Board of Directors of the Little Rock Advertising Club and represented the organization at the Advertising Federation of America in Boston in 1947.

PUBLIC RELATIONS GROUP MEETS AT A.M.A. OFFICE

The initial meeting of the advisory committee on the public relations program of the A.M.A. was held February 12 in Chicago with John F. Burton, M.D., O.S.M.A. representative attending. Dr. Burton was appointed by President Northcutt as the Oklahoma representative.

This committee achieved its purpose of bringing to A.M.A. headquarters the benefit of the advice and experience of representatives from the various states who are in a position to better analyze the ultimate effect of any national program and to put the program on a state level in such a manner as to secure greatest results.

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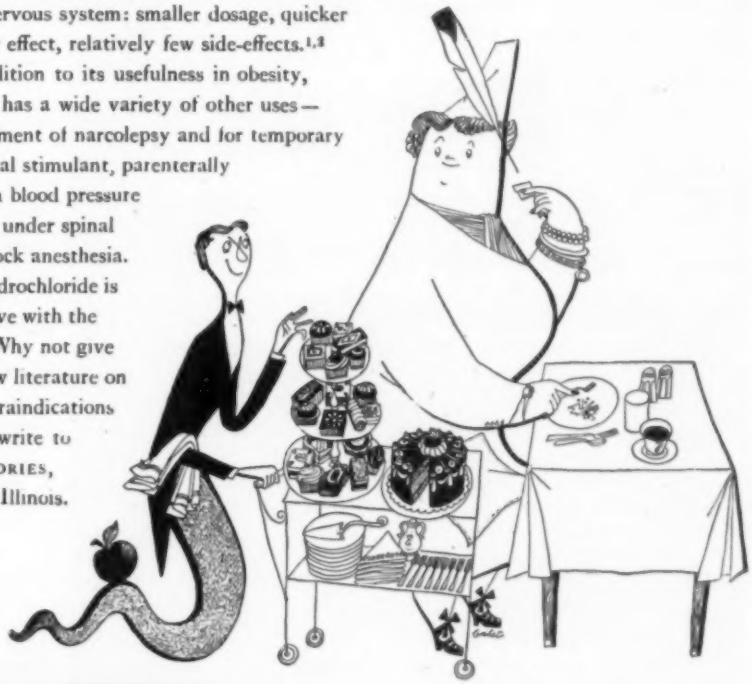

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AMPOULES, 20 mg. per cc.

1. Ivy, A. C., and Goetzl, F. R. (1943). d-Desoxyephedrine: A Review, War Med., 3:60, January.
2. Davidoff, E. (1943). A Comparison of the Stimulating Effect of Amphetamine, Dextroamphetamine and Dextro-N-Methyl Amphetamine (Dextro-Desoxyephedrine), Med. Rec., 156:622, July.

HAVE YOU HEARD?

Louis Buell, M.D., Shattuck, has bought an interest in the Ming-Kendall Clinic in Okmulgee and is moving to that city. The clinic will be known as the Buell-Kendall Clinic.

C. L. Benson, M.D., Cherokee, is the newly elected first vice-president of the American Business Club of Cherokee.

J. H. Goldberger, M.D., Lawton, is a new member of the Canadian county war manpower committee.

J. William Finch, M.D., Hobart, is the recently elected Kiwanis Club president in that city.

Curtis Berry, M.D., D.G. Willard, M.D. and O. M. Woodson, M.D., Norman have moved into their new clinic building. Through their new partnership, each of the three doctors plans two weeks of post-graduate study plus two- weeks vacation each year.

First baby born in Enid in 1949 was the son of Dr. and Mrs. Avery B. Wight, jr.

C.A. Traverse, M.D., Alva, is a new board member of the Alva Chamber of Commerce.

C. E. Northcutt, M.D., O.S.M.A. President from Ponca City, spoke to the Eighth District Nurses' Association on "Socialized Medicine and its Relation to the Nursing Profession."

John R. Callaway, M.D., Pauls Valley, was named man-of-the-month of his city two years ago and during the Christmas season this year (1948) he received a box of pears from an Oregon concern because of that honor.

W. G. Dunnington, M.D., Cherokee, has recently been appointed Santa Fe railroad surgeon for that locality.

W. N. Oxley, M.D., Texhoma, has recently moved into the new medical clinic in that city.

James F. McMurry, M.D., Sentinel, recently addressed the Rotary club of that city on "Socialized Medicine."

Robert L. Mitchell, M.D., Muskogee, a veteran of 27 years service with the VA hospital in Muskogee, was honored at a banquet by VA officials there upon his recent retirement.

A. B. Colyar, M.D. has moved from Atoka to Poteau as he has been appointed County Health officer of Pittsburg County.

Poul Nesson Rolle, M.D., Seiling, has accepted the position as contract physician for the Indian service at Canton and will be there two days each week.

N. C. Gaddis, M.D., and Mrs. Gaddis were guests of honor at a farewell party in Tipton. Dr. Gaddis is now practicing in Tulsa.

Felix M. Adams, M.D. and Orville L. Grigsby, M.D., Nowata, have recently combined their offices and opened a recently remodeled clinic.

Claude B. Watters, M.D., Pawnee, is a new member of the Board of Directors of the Pawnee National Bank.

A. W. Hoyt, M. D., Chickasha, spoke on the nursing care of newborn babies and ill children at the meeting of district 17 of the Oklahoma Nurses Association in Chickasha.

Charles Green, M.D., Lawton, spoke on "Health" at a January meeting of the Whittier P-TA in Lawton.

J. W. Francis, M.D., Perry, discussed "Health" at a meeting of the Billings P-TA.

John Hart, O.S.M.A. Associate Executive Secretary, spoke on "Socialized Medicine" at a recent meeting of the Cherokee Rotary Club.

James S. Petty, M.D., Guthrie, has been appointed to the Board of Regents of Oklahoma colleges.

C. E. Cook, Jr., Cherokee, has been appointed County Superintendent of Health of Alfalfa County by Grady F. Mathews, M.D., Commissioner.

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✓	Thorough action
✓	Gentle action

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✓	Absence of Constipation Rebound
✓	No Development of Tolerance
✓	Safe from Excessive Dehydration
✓	No Disturbance of Absorption of Nutritive Elements
✓	Causes no Pelvic Congestion
✓	No Patient Discomfort
✓	Nonhabituating
✓	Free from Cumulative Effects

	ADMINISTRATION
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✓	Uniform Potency
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MEDICAL SOCIETIES AROUND THE STATE

TULSA COUNTY

Dr. Anton J. Carlson, Professor Emeritus of the University of Chicago, was guest speaker at the Tulsa County Medical Society January 10. His topic was "Diet and the Life Span." At the Tulsa County January 24 meeting James B. Thompson, M.D., Tulsa, presented a paper entitled "The Role of the Transverse Abdominal Incision in the Reduction of Postoperative Complications." All members of the medical profession in eastern Oklahoma are invited to attend the scientific sessions of the Tulsa County Society, according to John E. McDonald, M.D., President of the Society.

GARFIELD COUNTY

B. J. Cordonnier, M.D., newly elected president of the Garfield County Medical Society, presided at the first 1949 meeting when Jimmy Hibbard, M.D., Wichita, Kansas, spoke on "Common Neurological Problems and Their Surgical Treatment."

POTTAWATOMIE COUNTY

"Virus Diseases" were discussed by J. N. Owens Jr., M.D. and K. W. Navin, M.D. at the regular January meeting of the Pottawatomie County Medical Society. A dinner was held preceding the meeting.

STEPHENS COUNTY

A. J. Weedn, M.D., Duncan was elected president of the Stephens County Medical Society at a recent meeting. Other 1949 officers are Jack Gregston, M.D., Marlow, vice-president; W. R. Cheatwood, M.D., Duncan, secretary-treasurer; W. S. Ivy, M.D., Duncan, delegate; Richard Ellis, M.D., Duncan, alternate; and E. B. Thomasson, M.D., new member of the board of censors.

DO YOU KNOW?

That two members of the O.S.M.A. have been appointed by Governor Turner to the State Board of Health? They are T. H. McCarley, M.D., McAlester, and Roy Fisher, M.D., Frederick. The appointments have been approved by the Senate and are now effective. Dr. McCarley, from the third Congressional District, will serve until July 1, 1957, while Dr. Fisher's term will expire June 30, 1953.

CARTER COUNTY

A movie showing vocational rehabilitation work and speeches by representatives from that department featured the meeting of the Carter County Medical Society recently. During the business session H. A. Higgins, M.D., J. Hobson Veazey, M.D. and James T. Godfrey, M.D. were named to the program committee.

HARMON COUNTY

Life certificates in the O.S.M.A. were awarded to W. M. Yeargan, M.D. and O. J. Street, M.D. at the January Harmon County Medical Society meeting. At a recent election of officers of the society, R. H. Lynch, M.D. was named president and C. N. Talley, M.D. was elected secretary.

PITTSBURGH COUNTY

Guest speaker at the January meeting of the Pittsburg County Medical Society was Stewart Harral of the University of Oklahoma School of Journalism. New officers were also installed at the meeting. They are: George Booth, M.D., Wilburton, president; William LerBlanc, M.D., Hartshorne, president-elect; E. D. Greenberger, M.D., McAlester, vice-president; and Homer C. Wheeler, M.D., McAlester, secretary-treasurer.

CRAIG COUNTY

Newly elected officers of Craig County Medical Society are: J. M. McMillan, M.D., president; P. L. Hays, M.D., vice-president; D. H. Olson, M.D., secretary-treasurer; L. H. McPike, M.D., P. L. Hays, M.D., and W. R. Marks, M.D., censors; and F. M. Adams, M.D., delegate, and J B. Darrough, M.D. alternate. All are from Vinita.

BOOK PREPARED

Soon to be issued in book form are the Ciba illustrations of anatomy and pathology which were prepared by Frank H. Netter, M.D. These full color drawings have been distributed to physicians for the last several years in portfolio form by Ciba Pharmaceutical Products, Inc., Summit, New Jersey. The book will bring together all drawings distributed up to January 1, 1948.

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MEET OUR CONTRIBUTORS

Joseph H. Goldberger, A.B., M.D., El Reno, wrote "Superficial Foreign Bodies in the Cornea" in this issue of the Journal. Dr. Goldberger was graduated from Tulane University in 1935 and limits his practice to his specialty, eye, ear, nose and throat. He is a member of the Oklahoma City Academy of Eye, Ear, Nose and Throat and was president of the Canadian County Medical Society in 1948. Dr. Goldberger is assistant division oculist and aurist for the Rock Island Railway Company and consultant in eye, ear, nose and throat at the U.S. Public Health Service Hospital, Federal Reformatory, El Reno. Before practicing in El Reno he was at Anthony, Texas. Dr. Goldberger's father did the pioneer research work in pellagra from 1914 to 1929.

C. G. Stuard, M.D., Tulsa, wrote "Ten Years Progress in Ophthalmology" in this Journal. Dr. Stuard was graduated from the University of Oklahoma School of Medicine in 1937 and limits his practice to ophthalmology. Dr. Stuard is a fellow of the American Academy of Ophthalmology and Otolaryngology, a diplomate of the American Board of Ophthalmology and a member of the Kansas City Society of Ophthalmology and Otolaryngology. He was certified by the American Board of Ophthalmology in 1942. He is now practicing in Tulsa and is the Tulsa County Delegate. Dr. Stuard was in the army from 1941 to 1945.

Lucile S. Blachly, B.S., M.D., Oklahoma City, is the author of "Problems in Nutrition" appearing in the March Journal. Dr. Blachly was graduated from Rush Medical College in 1916 and limits her practice to her specialty, internal medicine. Dr. Blachly is now associated with the Bone and Joint Hospital, Oklahoma City, but also practiced in Drumright and did public health work with the Bureau of Maternity and Infancy, Child Hygiene, etc. in Florida and Oklahoma.

Franklin H. Top, M.D., M.P.H., F.A.C.P., F.A.A.P., Detroit, was a scientific speaker at the annual meeting and his article on "Food Infections and Intoxications" is in the March Journal. He received his medical degree from the University of Pennsylvania school of medicine in 1928 and he specializes in infectious diseases and epidemiology; public health; and hospital administration. Dr. Top is a fellow in the following organizations: American Public Health Association, American Association for the Advancement of Science, American College of Physicians, American Academy of Pediatricians (associate), and a member of the American Epidemiology Society. He is a clinical professor of the department of preventive medicine and public health, Wayne University, and non-resident lecturer, infectious diseases and epidemiology, University of Michigan Postgraduate School, Ann Arbor, Mich. From 1931 to 1934 he was resident physician and acting assistant to the medical director CD division, Herman Kiefer Hospital; 1934-1935, postgraduate work, Johns Hopkins University School of Public Health, Baltimore, Md.; 1935-1942, medical director Com. Dis. Service, Herman Kiefer Hospital, Detroit; 1942-1947, medical director, Herman Kiefer Hospital; and in 1947 he was named direcetor of Herman Kiefer Hospital.

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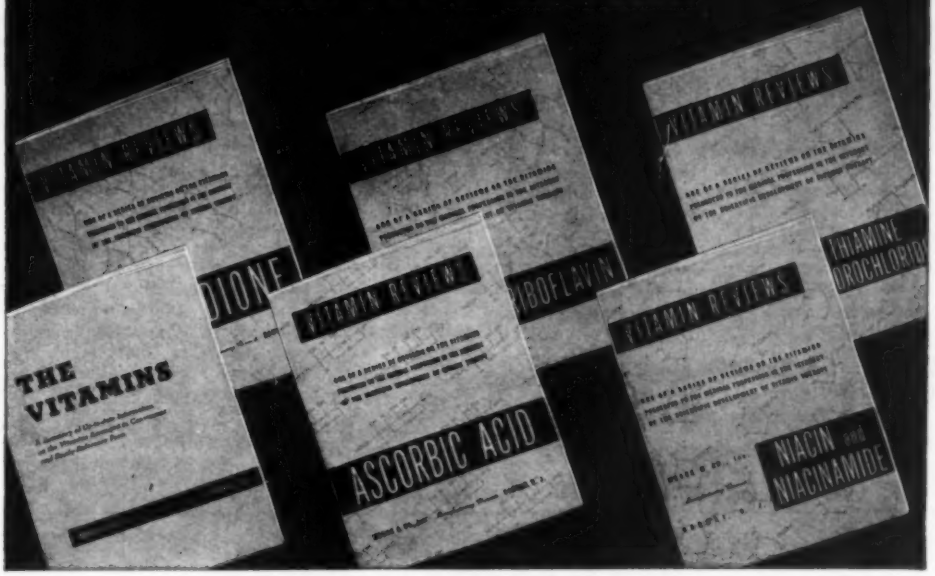

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- **Methods of administration.**
- **Clinical use in specific conditions.**

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BOOK REVIEWS

OCCUPATIONAL THERAPY SOURCE BOOK. Sidney Licht, M.D. Baltimore, Williams and Wilkins Company. 1948. 90 pages.

The foreward best expresses the content of this book in the statement, "Here is occupational therapy in retrospect." The book consists of a collection of original writings of historic significance in relation to the development of Occupational Therapy for the Insane.

The author in a chapter under his own name points out that Occupational Therapy might be called, "Activity Treatment" for mental patients and states that it was first recommended by Asclepiades one hundred years B.C.

A chapter is translated from the original first edition of Pinel's book, "The Use of Occupations" written in Paris in 1901. The statement is made, "Rigorously executed manual labor is the best method of securing good morale and discipline."

Another chapter is by Johann Christian Reil in 1803. This man was the first to recommend a hospital gymnasium and patient participation in dramatic production.

William S. Hallaran in 1810 is also quoted as to his opinions on exercise as treatment of insanity.

Other chapters in the book contain similar ideas devoted to the evolution and development of exercise and work, which is now termed "Occupational Therapy."

The book is excellently written and should be of great interest to those who are interested in Occupational Therapy for the insane.—Earl D. McBride, M.D.

THE CASE AGAINST SOCIALIZED MEDICINE. Lawrence Sullivan. The Statesman Press. Washington. 1948. 53 pages. Price $1.50.

This brief, intelligible, readable, well-documented story by Lawrence Sullivan should be carefully read by every physician in the State of Oklahoma and placed in the hands of all influential citizens with the request that they read and write to the lawmakers in Washington who are under the pressure of illegal publicity sponsored by their employees in Washington and paid for with their money. All designed to rob them of their freedom and if successful, certain to result in deterioration of national health with a heavy strain upon honor and integrity.

This book shows what the heritage will be. All who treasure the welfare of their children should read and learn and leave no stones unturned. Those among the physicians of Oklahoma who have been regular readers of the Journal will see in this valuable little book an epitomy of what has appeared in its editorial columns during the past 10 years.

Please purchase, read and distribute.—Lewis J. Moorman, M.D.

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**Reprints on request:

Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154; Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60; Proc. Soc. Exp. Biol. and Med., 1934, 32-241; N. Y. State Journ. Med., Vol. 35, 6-1-25, No. 11, 590-592.

OFFICERS OF COUNTY SOCIETIES, 1948

COUNTY	PRESIDENT	SECRETARY	MEETING TIME
Alfalfa	G. G. Harris, Helena	C. E. Cook, Jr., Cherokee	Last Tues. each Second Month
Atoka-Bryan-Coal-Johnston	J. S. Fulton, Atoka	W. W. Cotton, Atoka	
Beckham	T. J. McGrath, Sayre	J. B. McGolrick, Erick	Second Tuesday
Blaine	Fred Perry, Okeene	Virginia Curtin, Watonga	Third Thursday
Caddo	C. R. Waterbury, Apache	Edward T. Cook, Jr., Anadarko	Third Thursday
Canadian	J. N. Goldberger, El Reno	Jack W. Myers, El Reno	Subject to Call
Carter	Roger Reid, Ardmore	Royce Means, Ardmore	Second Tuesday
Cherokee	P. H. Medearis, Tahlequah	R. K. McIntosh, Jr., Tahlequah	First Tuesday
Choctaw-McCurtain-Pushmataha		Fred D. Switzer, Hugo	
Cleveland	T. A. Ragan, Norman	Mabelle S. Collins, Norman	Fourth Thursday
Comanche	Byron W. Aycock, Lawton	E. Stanley Berger, Lawton	Second Tuesday
Cotton	A. B. Holsted, Temple	Mollie Scism, Walters	Third Friday
Craig	C. P. Chumley, Vinita	J. M. McMillan, Vinita	
Creek	P. K. Lewis, Sapulpa	Louis A. Martin, Sapulpa	Second Tuesday
Custer	J. G. Wood, Weatherford	Floyd Simon, Clinton	Third Thursday
Garfield	J. Wendell Mercer, Enid	Roscoe C. Baker, Enid	Fourth Thursday
Garvin	R. H. Mayes, Lindsey	John R. Callaway, Pauls Valley	Wed. before 3rd Thur.
Grant	I. V. Hardy, Medford	F. P. Robinson, Pond Creek	
Grady	Joseph J. Swan, Chickasha	Harold H. Macumber, Chickasha	
Greer	Fred Sellers, Mangum	J. B. Hollis, Mangum	
Harmon	R. H. Lynch, Hollis	C. N. Talley, Hollis	First Wednesday
Haskell	William S. Carson, Keota	N. K. William, McCurtain	
Hughes	L. A. S. Johnston, Holdenville	Paul Kernek, Holdenville	First Friday
Jackson	J. P. Irby, Altus	C. L. Tefertiller, Altus	Last Monday
Jefferson	H. A. Rosier, Waurika	O. J. Hagg, Waurika	Second Monday
Kay-Noble	Glenn Kreger, Tonkawa	E. C. Mohler, Ponca City	Second Thursday
Kingfisher	H. Violet Sturgeon, Hennessey	Henry C. Trzaska, Hennessey	
Kiowa	R. F. Shriner, Hobart	J. B. Tolbert, Mt. View	
LeFlore	John R. Harvey, Heavener	G. W. Hogaboom, Heavener	
Lincoln	U. E. Nickell, Davenport	Ross P. Demos, Stroud	First Wednesday
Logan	Webber Merrell, Guthrie	Phillips R. Fife, Guthrie	Last Tuesday
Mayes	E. H. Werling, Pryor	Paul B. Cameron, Pryor	
McClain	Ralph Royster, Purcell	W. C. McCurdy, Jr., Purcell	
McIntosh	F. R. First, Jr., Checotah	W. A. Tolleson, Eufaula	Third Thursday
Muskogee-Sequoyah-Wagoner	George L. Kaiser, Muskogee	Eugene M. Henry, Muskogee	First Tuesday
Northwestern	R. G. Obermiller, Woodward	C. W. Tedrowe, Woodward	2nd Thurs. Even Mo.
Okfuskee	A. S. Melton, Okemah	M. L. Whitney, Okemah	
Oklahoma	Onis George Hazel, Oklahoma City	Gerald Bednar, Oklahoma City Mrs. Muriel Waller, Exec. Secty.	Fourth Tuesday
Okmulgee	J. C. Matheney, Okmulgee	S. B. Leslie, Jr., Okmulgee	Second Monday
Osage	C. S. Stotts, Pawhuska	William A. Loy, Pawhuska	Third Thursday
Ottawa	F. L. Wormington, Miami	W. Jackson Sayles, Miami	Second Thursday
Payne-Pawnee	Clifford M. Bassett, Cushing	C. W. Moore, Stillwater	Third Friday
Pittsburg	G. R. Booth, Wilburton	Homer C. Wheeler, McAlester	First Wednesday
Pontotoc-Murray	E. M. Gullatt, Ada	Ollie McBride, Ada	1st and 3rd Wed.
Pottawatomie	Jack W. Baxter, Shawnee	F. C. Gallaher, Shawnee	Third Wednesday
Rogers	Roy Melinder, Claremore	P. S. Anderson, Claremore	
Seminole	Claude Chambers, Seminole	Mack I. Shanholtz, Wewoka	Third Wednesday
Stephens	Fred Patterson, Duncan	W. R. Cheatwood, Duncan	Third Wednesday
Texas		E. L. Buford, Guymon	
Tillman	G. A. Tallant, Frederick	O. G. Bacon, Frederick	Second and Fourth Monday
Tulsa	John E. McDonald, Tulsa Medical Arts Bldg.	John G. Matt, Tulsa Mr. Jack Spears, Exec. Secty.	
Washington Nowata	L. B. Word, Bartlesville	C. L. Johnson, Jr., Bartlesville	Second Wednesday
Washita	A. H. Bungardt, Cordell	Aubrey E. Stowers, Sentinel	Last Tuesday
Woods	R. A. Whiteneck, Waynoka	W. F. LaFon, Alva	Odd Months

COUNCILORS AND VICE-COUNCILORS

COUNCILOS AND VICE-COUNCILORS

District No. 1: Alfalfa, Beaver, Cimarron, Dewey, Ellis, Harper, Texas, Woods, Woodward—Daniel B. Ensor, M.D., Hopeton (C) 1950; O. C. Newman, M.D., Shattuck (V-C) 1950.

District No. 2: Beckham,, Custer, Greer, Harmon, Jackson, Kiowa, Roger Mills, Tillman, Washita—L. G. Livingston, M.D., Cordell (C) 1951; O. C. Standifer, M.D., Elk City (V-C) 1951.

District No. 3: Garfield, Grant, Kay, Noble, Pawnee, Payne, Major—Bruce Hinson, M.D., Enid (C) 1949; R. W. Choice, M.D., Wakita (V-C) 1949.

District No. 4: Blaine, Canadian, Cleveland, Kingfisher, Logan, Oklahoma—Carroll Pounders, M.D., Oklahoma City (C) 1950; Joe Phelps, M.D., El Reno (V-C) 1950.

District No. 5: Caddo, Carter, Comanche, Cotton, Grady, Jefferson, Love, Stephens—J. Hobson Veazey, M.D., Ardmore (C) 1951; O. J. Hagg, M.D., Waurika (V-C) 1951.

District No. 6: Creek, Nowata, Osage, Rogers, Tulsa, Washington—Ralph McGill, M.D., Tulsa (C) 1949; P. S. Anderson, M.D., Claremore (V-C) 1951.

District No. 7: Garvin, Hughes, Lincoln, McClain, Murray, Okfuskee, Pontotoc, Pottawatomie, Seminole—Clinton Gallaher, M.D., Shawnee (C) 1950; Ned Burleson, M.D., Prague (V-C) 1950.

District No. 8: Adair, Cherokee, Craig, Delaware, Mayes, Muskogee, Okmulgee, Ottawa, Sequoyah, Wagoner—Shade Neely, M.D., Muskogee (C) 1951; W. J. Sayles, M.D., Miami (V-C) 1951.

District No. 9: Haskell, Latimer, LeFlore, McIntosh, Pittsburg—Earl Woodson, M.D., Poteau (C) 1949; E. H. Shuller, M.D., McAlester (V-C) 1949.

District No. 10: Atoka, Bryan, Choctaw, Coal, Johnston, Marshall, McCurtain, Pushmataha—W. K. Haynie, M.D., Durant (C) 1950; W. W. Cotton, M.D., Atoka (V-C) 1950.